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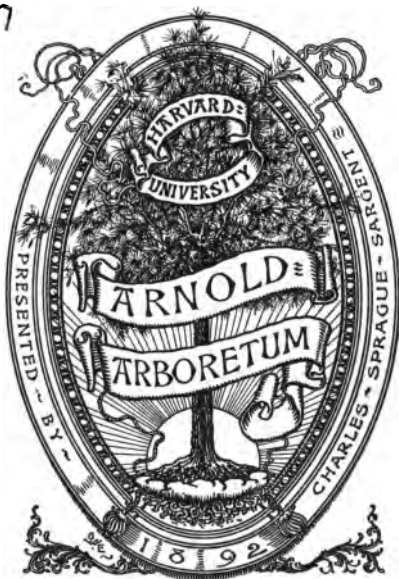
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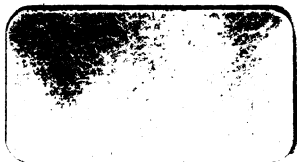
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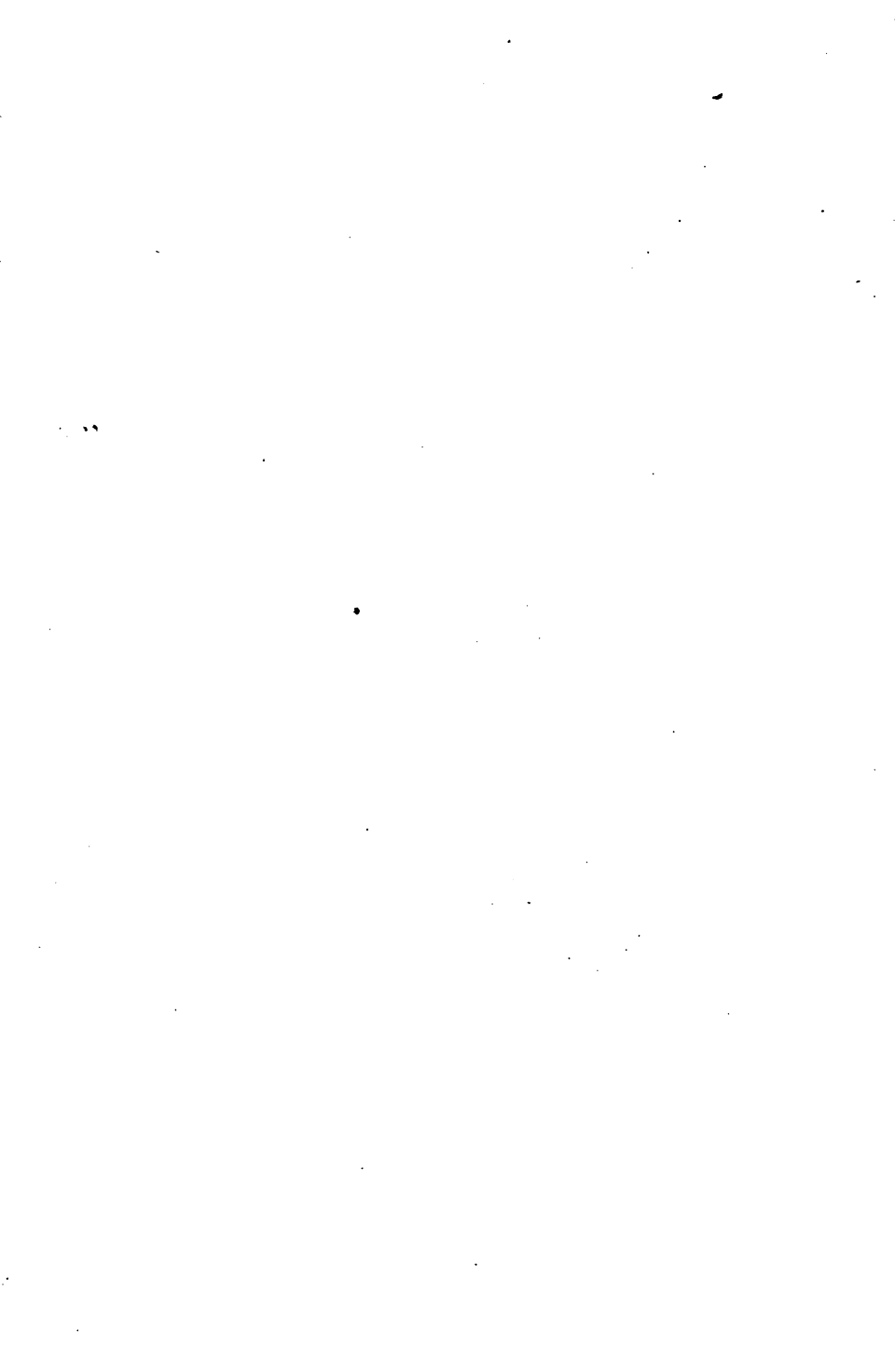


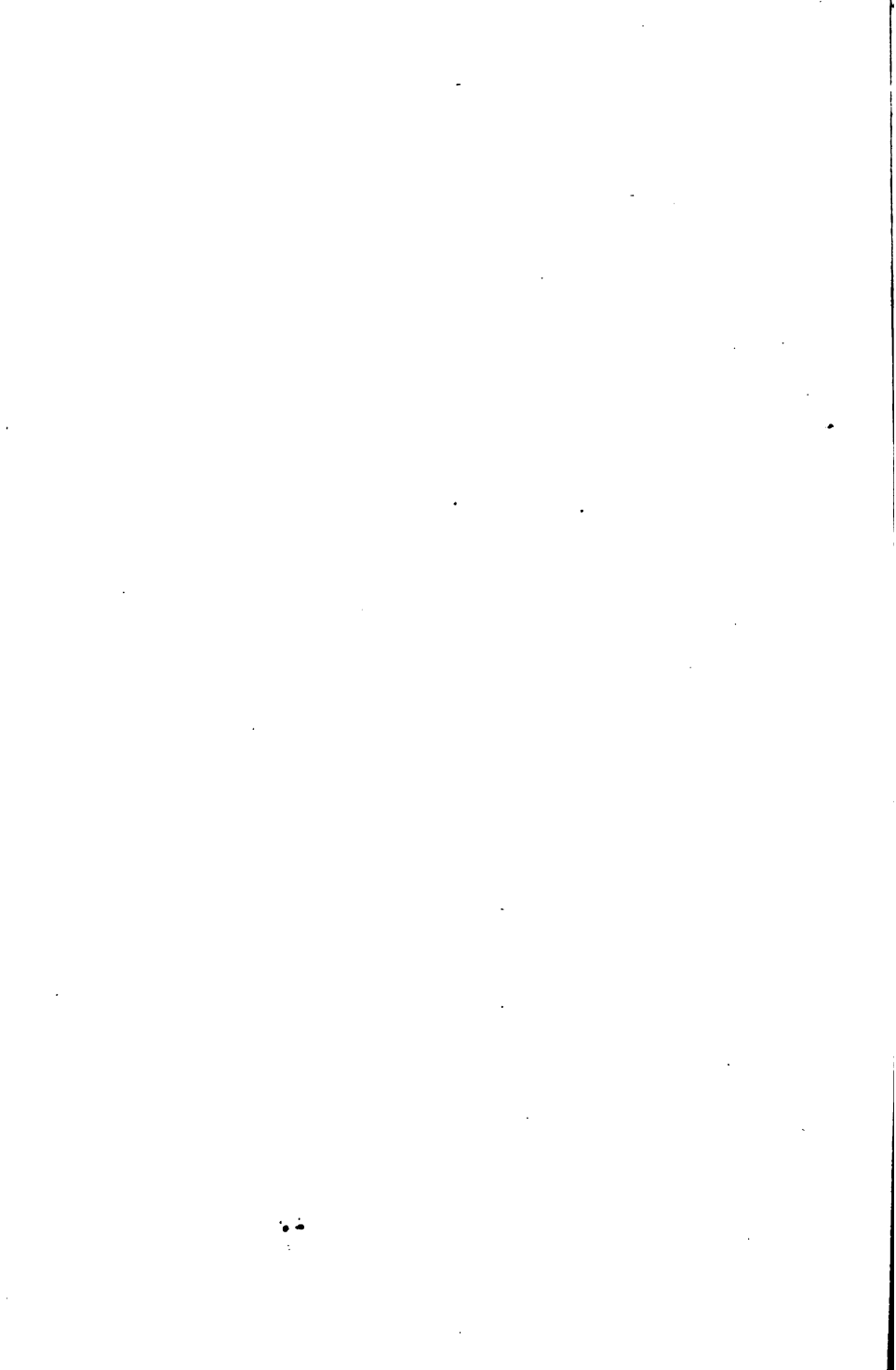
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REVIEW  
OF THE  
BRITISH ROSES,  
ESPECIALLY THOSE  
OF THE NORTH OF ENGLAND.

BY J. G. BAKER,  
AUTHOR OF "NORTH YORKSHIRE," &c.

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REVIEW OF THE BRITISH ROSES,  
ESPECIALLY THOSE OF THE NORTH OF ENGLAND.

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BY J. G. BAKER, OF THIRSK.

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PART I.

In Britain, of late times, comparatively little attention has been paid to our indigenous Roses, and hardly anything has been written about them during the last thirty years. *Rosa* is one of those genera, where a difference in the point of view from which an author looks at the great species question, makes the widest difference in the number of species which he acknowledges. Where M. Grenier enumerates only 23 Roses for the whole of France, M. Dèseglièze describes or mentions 107 in his elaborate monograph of the French Roses, and M. Boreau, in the last edition of his *Flora*, gives 74 for the Central Departments only. In the present state of the literature of the subject, to write a monograph of the European Roses, to group the combinations of subordinate value into species which well-marked characters separate, to trace out the synonymy of these latter, and their distribution through the different countries, to clear up, or cast aside as impossible to be cleared up, the crowd of species which have been imperfectly described, would be a very laborious task. But a large proportion of the species of major, and apparently a larger proportion still, of those of minor value, do not extend their range into Britain; and for us to satisfy ourselves about our indigenous species, and their distribution within the limits of the island, does not seem to be very difficult of attainment, after what has been already done. What I propose to do in this paper is principally to narrate my own experience of the North of England Roses, and their distinctive characters. There is hardly any genus of plants in which there seems to be a greater diversity of opinion, as to what characters are of value for diagnostic purposes: and unless in the handbooks, the descriptions in these critical genera are



unusually full and complete, it is impossible for those who have only books to rely upon to name the species they gather. So that I have considered that to attempt to describe our species, and especially to attempt to ascertain the range of their variations in character, would not be an unprofitable task. I intend as I proceed to deviate from this local limitation to make any comments that suggest themselves, respecting the synonymy, alliances, and distribution of the British species. With regard to synonymy I am under special obligations to M. Désèglise, who has not only given me his opinion upon a collection of all the British forms which I was able to send him, but has also furnished me with authentic specimens of most of the species described in his book. And of other continental Botanists I have also to thank M. Boreau for authenticated specimens of many of the Roses of his "Flore du Centre," Dr. Fauconnet for examples of many of the Swiss species, and Professor Crepin for Belgian specimens, and copious notes on what I sent him from this country.

Passing the alien *Cinnamomeæ* we come first to the *Spinossimæ*, all comparatively low bushes, plentifully stoloniferous, with erect or slightly arching stems and short compact branches, typically subglobose fruit, and truly persistent sepals, but best characterised amongst the free-styled roses by the decided inequality of their usually crowded prickles, which pass from their full development down to minute aciculi by gradual stages of transition, and by the, at least occasional occurrence of setæ on the well-matured stems.

I.—R. SPINOSISSIMA. *Linn.* In exposed places an erect shrub, with main stems one to four feet high, and short, rigid, compact, spreading, branches, creeping extensively, and forming a colony where it is allowed to grow unmolested; in shade sometimes with caespitose arching stems and looser and longer branches. Shoots densely beset with prickles, which pass by gradual stages of transition into aciculi and setæ. Largest prickles of the mature stems with bases about three-sixteenths of an inch deep, the prickle upwards of a quarter of an inch long, narrowed suddenly from the base to a slightly compressed needle, the upper line hardly at all curved. Well developed leaves not much over two inches from the base to the apex of the terminal leaflet. Leaflets rigid in texture, roundish or oval, in small specimens not more than one-eighth of an inch long, by less wide, in larger specimens three-quarters of an inch long by half an inch wide, simply serrated or with an occasional accessory tooth, lower serratures

tolerably open, occasionally gland-tipped, both sides of the leaf glabrous and glandless, or with a very occasional gland on the midrib beneath. Petioles without hairs, but often with a few setæ and aciculi. Stipules with erecto-patent, lanceolate auricles, glabrous on the back, but sometimes slightly gland-ciliated. Peduncles invariably solitary and bractless, erect in fruit, usually glabrous, but sometimes more or less aciculate and setose. Calyx tube sub-globose, glabrous, purple where exposed, segments entire, naked on the back, and either the same at the edge or furnished with a gland or two, from three-eighths to half an inch long, shorter than the petals. Flowers usually nearly white, sometimes more or less tinged with red, measuring from one inch to one and a half across when fully expanded. Styles villose. Fruit coriaceous, shining, glabrous, usually purplish black when ripe, but sometimes reddish, in shape subglobose, or even somewhat depressed, three-eighths to half an inch broad, crowned by the truly persistent somewhat coriaceous purplish sepals, which are hardly if at all lengthened out and flattened at the point. Fruit ripening in September and October.

The only British specimens which I have seen to which the above description does not apply, are—one gathered by Mr. Robertson, in Castle Eden dene, Durham, which has an ovate ampulliform fruit, twice as long as broad, but otherwise as above—and one gathered by Mr. Borrer, at Brighton, which has a very prickly and setose peduncle, and in which the lower part of the fruit is prickly and setose also. This latter is doubtless the variety *γ aculeatissima* of Woods, and the former probably his var, *ε*.

Our plant is the *pimpinellifolia* of several continental authors, who give *spinosissima* as a distinct species. Reichenbach (Fl. Excurs.) assigns to his *pimpinellifolia* globose fruit, glabrous peduncles, and simply serrated roundish leaves, and to his *spinosissima* ovate fruit, hispid peduncles, and doubly serrated oblong leaves; but this does not give quite a correct idea of either, if Dèseglise is correct in quoting the latter as a synonym of his *R. Ripartii*. This latter, of which specimens are given in his "Herbarium Rosarum," has roundish oval doubly glanduloso-serrated leaves, the midribs beneath finely glandular, and the stipules gland-ciliated, the peduncles and globose calyx tube varying from glabrous to roughly aciculate and setose. *R. myriacantha*, *De Can.* is described as having doubly glanduloso-serrated leaves, which are glandular beneath, and densely aciculate and setose peduncles and fruit. *R. spreta*, *Dèseglise* appears to differ from *spinosissima* principally by its fewer prickles and less hairy

styles. *R. consimilis*, *Dèség.* has few prickles, glabrous or slightly hairy petioles, almost glabrous leaves, a small glabrous roundish fruit and glabrous styles; and *R. Ozanonii*, *Dèség.* unarmed branches, hairy and glandular petioles, leaves both hairy and glandular on the midrib beneath, glabrous peduncles, and a small spherical fruit with woolly styles. But none of these are known in Britain, and leaving out of view Lindley's *β pilosa*, which seems to be altogether a doubtful plant, there is no need, so far as Britain is concerned, to speak of sub-species here, and no difficulty in finding well-marked distinctive characters to rely upon. It is the only British rose which has the flowers essentially single, and from its nearest allies, the character of its fruit and sepals separate it readily.

*R. rubella* is represented in Winch's collection at Newcastle, by two specimens in flower, marked "Durham Coast," with ovate, glabrous, simply toothed leaves, slightly setose but not hairy petioles, bracts with spreading setoso-ciliated auricles, peduncles closely aciculate and setose, ovate calyx tube slightly setose at the base, and simple but decidedly leaf pointed sepals, which are glandular over the back, and the largest of which is about as long as the petals. According to the descriptions (*British Flora, &c.*) it has few prickles, but numerous setæ on the stems, cernuous mature peduncles, short oval drooping fruit, firm in texture and bright red in colour, shortly oval, tapering at each end or somewhat urceolate in shape, and crowned by the persistent sepals. But a plant in Mr. Robertson's collection, marked "This is mentioned by Smith in E. B. as *R. rubella*. On sand of sea shore between Whitburn and Sunderland, Durham, plentifully," is a mere red fruited form of *spinosissima*. In the Transactions of the Tyneside Naturalists' Club, vol. iv. p. 185, Mr. John Hogg, of Norton House, Stockton-on-Tees, gives an account of a rose which he gathered near his own residence, and which was pronounced by Winch to be *R. rubella*, as lately as 1832. Of this he has kindly supplied me with specimens, and it also is evidently a mere form of *spinosissima*, with pinkish flowers, slightly glandular petioles and aciculate and setose peduncles. So that for the North of England we have no authority for the occurrence of the true plant, except the original statement of Winch. *R. rubella* as just described recedes from *R. spinosissima* in the direction of *R. alpina*, approaching the latter closely in the nature of its fruit, and differing conspicuously from the former. There are plants in the Swiss Alps, which come very near to the above characters, which are considered as hybrids between *spinosissima* and *alpina* by M. Reuter, and one of

which is the *R. rubella* of Godet. I have specimens of two of these from Dr. Fauconnet, but they are in flower only, and even as far as they go, neither coincides precisely with Winch's plant. Koch refers a specimen sent from England as *R. rubella* to the Istrian *R. gentilis*, *Sternb.* but describes this latter as having the prickles crowded upon the shoots of the year, and the sepals one half shorter than the corolla.

II. R. SABINI, *Woods.* In exposed places an erect shrub, with stems three to six or eight feet in height, short compact branches, and deep vinous-purple shoots and prickles, creeping extensively and forming a colony: in shade with taller somewhat arching stems and looser branches; the whole plant with a resinous scent and young leaves of the twigs softly downy. Shoots densely beset with prickles, which pass by gradual stages of transition into numerous aciculi and setæ. Longest prickles of the mature stem with bases a quarter of an inch deep, the prickle three-eighths of an inch long, narrowing suddenly from above the base to a slightly compressed needle, the upper line almost straight or slightly curved, the aciculi of the flowering shoots hardly at all curved. Well developed leaves of the barren shoots of the year about three inches from the base to the apex of the terminal leaflet which is cordate or broadly ovate, and measures about one inch long by five-eighths broad. Leaflets more or less thoroughly doubly serrated with open main serratures, dull green and greyish-hairy on their upper surfaces, paler and more hairy beneath, with reddish resinous glands spread sometimes all over the blade, but more frequently almost confined to the midrib and margins. Stipules hairy on the back and usually also glandular, densely setoso-ciliated, with lanceolate erecto-patent auricles. Petioles and peduncles with abundant hairs, aciculi and setæ. Flowers solitary or two or three together, the bracts ovate-lanceolate, hairy and glandular, and copiously setoso-ciliated. Calyx tube subglobose, often purplish, more or less thickly beset with aciculi and setæ, the segments about three-quarters of an inch in length, more or less lengthened out and leafy at the point, usually simple, but not unfrequently furnished with one or two narrow pinnæ, the lower part of the blade always aciculate and setose, the upper part tomentose, and the leafy point often setoso-ciliated. Petals varying from pure white to deep rose colour, in fine specimens not less than one inch in length by an inch in breadth, so that the fully expanded flower is quite two inches across. The calyx segments are often of a rich deep purplish brown by the time the corolla falls, and then spread out at right angles with the

tube. Styles villose, fruit not ripening till October, pulpy in texture, deep red in colour, crowned by the connivent or ascending segments of the truly persistent calyx.

This species is tolerably frequent in the North of England. In North Yorkshire we have it in seven out of the nine drainage districts, and ascending from the sea-level to 900 feet. After the examination of a considerable number of authenticated specimens I am entirely at a loss to find characters to distinguish *Sabini*, *Doniana* and *gracilis*, even as varieties. I have not seen the larger prickles more than slightly curved. In small plants the flowers are often single and the sepals all entire, but this is a mere question of want of luxuriance. The flowers vary considerably in size and colour, the peduncles and calyx tubes in the closeness of their aciculi and setæ, the leaves in the openness of the serrations and especially as regards the glandulosity of their underside and the hairiness of their upper surfaces.

Professor Crepin has furnished me with a series of specimens of the Belgian rose, which he describes so carefully in the second fascicle of his "Notes sur quelques plantes rares ou critiques de la Belgique," page 25, under the name of *R. coronata*, and it does not seem to me in any way essentially different from the plant above described. The stems of this he says are about three feet in height and do not arch at the summit, and the flowers are pale rose-coloured. His specimens have the terminal leaflets ovate-elliptical, somewhat narrower in proportion to their length than in our ordinary plant, with sharp moderately open double serratures and usually abundance of glands upon their under surfaces. Comparing our British plant, as illustrated by specimens which I sent, the differences which he indicates (Notes p. 29) are that our plant is more robust, with flowers more frequently more than one, and in consequence with the bracts and stipules of the upper leaves more dilated, the branches and calyces dull violet, the corolla larger and apparently paler. This plant grows in the provinces of Namur and Luxembourg in Belgium and is given in Wirtgens' fasciculi of critical plants, issued in 1858 and 1860.

I have not seen the Savoyard *R. sabauda*, *Rapin*, but apparently we may also safely refer it here. M. Rapin identifies it as a species with the Belgian *coronata*. M. Crepin states, after the study of authenticated specimens, that it only differs from his plant by its leaves not glandular beneath, and with less compound serrations, less glandular stipules, less prickly calyx tube, and more elongated and leaf-pointed sepals: and he

tells us that in the second edition of the "Botanist's Guide to the Canton de Vaud," M. Rapin defines two varieties:— $\alpha$  *R. sabauda*, Rapin. Bull. Soc. Hall, p. 178, leaves glabrescent, simply or almost doubly dentate; and  $\beta$  *R. coronata*, Crepin, leaves grey hairy and velvety doubly dentate. In the second edition of Reuter's Plants of Geneva these two are described as distinct and both localised on Mont Saleve, the former on the summit of the hill, the latter in several places at a lower level.

Mr. Borrer kindly supplied me with specimens of *R. involuta*, and there are others from the Cambridge Botanic Garden labelled by him in Mr. Robertson's collection. Judging the plant by these, and the figures in the English Botany, the most tangible difference from *Sabini* which I can see is in the leaves, which are glabrous or very nearly so on the upper surface, hairy principally on the ribs beneath, glandular principally on the midrib and edges, with some of the teeth simple and some with one or more accessory gland-tipped serrations. The sepals are usually entire but have occasionally, as one of my specimens shews, an accessory pinna, and the calyx tube is very prickly. The smaller size of the bush and flower, the more northern station of the plant may well account for, and in other points it appears to coincide with the description of *Sabini* already given.

The Belgian variety *subnuda*, with which M. Crepin has also kindly furnished me, recedes further from the type, and I cannot possibly do better than transcribe M. Crepin's account of its characteristics as given at page 26 of his "Notes." The leaves are glabrous on the upper surface, thickly covered with glands beneath but with the nerves only slightly pubescent. The petioles are hairy and setose, the peduncles and calyx tubes quite naked, the corolla deep rose coloured and the fruit slightly glaucescent.

The Northumbrian plant that grows on the banks of the Ouse burn in Heaton dene, near Newcastle, which was once called *R. involuta*, by Winch (Geog. Pl. second edition, No. 3, App.) is intermediate between *Sabini* and Smith's *involuta*. In this the leaves are hardly at all hairy above, hairy principally on the midrib beneath, and slightly glandular on the margins, the serratures being sharp, some of them single, but more usually compound. The peduncles are aciculate and setose, but the calyx tube is nearly naked, in hue glaucous and dark purple, so that this must be regarded as a connecting link between the other three forms.

Regarding then *R. Sabini* as best distinguished from *spinosissima* by the nature of its fruit and sepals, and by its more or less hairy and glandular

doubly-serrated leaves, from *Wilsoni* and *hibernica* by the latter character, and from *hibernica* also by its glandular sepals, we have subordinate forms as follows, viz.:—

1. *Sabini*, *Doniana* and *gracilis*, *Angl.*; *coronata*, *Crepin* and *Reuter*; *sabauda*,  $\beta$  *Rapin*; peduncles and calyx tubes setose and aciculate, leaves with conspicuously compound teeth, hairy on both sides, more or less glandular beneath. Britain from Clova Mountains and Braemar southward to Sussex and Isle of Wight, Belgium, Savoy.

2. *involuta*, *Smith*; *sabauda*, *Reuter*; *sabauda*,  $\alpha$  *Rapin*; peduncles and calyx tubes setose and aciculate, leaves with less compound teeth, glabrous or nearly so above, hairy principally on the ribs beneath, and not glandular or only slightly so. Scotland, Savoy.

3. *Robertsoni*: *involuta*, *Winch*, *Geog. non Smith*: peduncles aciculate and setose, calyx tubes nearly smooth, leaves with less compound teeth, nearly glabrous on the upper surface, hairy principally on the ribs beneath and slightly glandular. Northumberland.

4. *subnuda*, *Orepin*; peduncles and calyx tubes smooth, leaves with fully compound teeth, glabrous on the upper surface, very glandular all over beneath, but only a little hairy on the veins. Belgium.

Judging from the description *R. Wilsoni* closely resembles *Sabini* in its habit of growth. The stems are said to be about three feet high in the wild state. In the character of the armature of the stem I do not see any difference between them, and the shape and measurement of the prickles seem to be the same. In size the leaves and leaflets are like those of *Sabini*. The terminal leaflet on the leaves of the barren stem is usually typically ovate, but varies from cordate to ovate considerably narrowed below. The leaflets are deep green in colour, often blotched with purple, glabrous on the upper surface or very slightly hairy on the midrib, paler beneath, and somewhat hairy or even glandular on the ribs and petioles, the serrations simple or with only a casual accessory gash, varying from as close as an ordinary *canina* to moderately open. The stipules and bracts are closely setoso-ciliated, the peduncles densely setose and aciculate, the flowers from one to three in number, the calyx tube either entirely naked or slightly aciculate and setose, the segments about half an inch long in the wild plant, glandular on the back, either simple or slightly pinnate, the point lengthened out and slightly dilated, the petals white, but towards the outer edge deeply tinged with rose colour, about five-eighths of an inch broad by three-quarters deep, so that the fully expanded corolla is

about an inch and a half across, and the styles are hairy. The fruit appears to ripen as in *Sabini*, but to have more of a tendency to an ovate-urceolate shape. The calyx segments spread out at about right angles from the tube when the petals fall, but afterwards ascend. Mr. Wilson visited the station again last autumn, and has kindly taken considerable pains to show me that the sepals are really persistent. The best character which we have to distinguish it from *Sabini* seems to be in the toothing of the leaves, so that we can scarcely, in my view, regard it safely as a species of primary value.

The figures of *R. Sabini* and *R. Wilsoni* in English Botany are both taken from unusually luxuriant specimens, and this has perhaps given rise to some misapprehensions respecting them. M. Crepin for instance, (Notes p. 28) questions whether 2594 be really *Sabini* at all, and not a very robust specimen of a form of *R. mollissima*. I think there can be no question of its being really the true plant, but it is confessedly from a garden-grown bush. Plate 583 for size and general habit shews our common form well, but not the characteristic armature of the stems, and the fruit is from a garden-grown bush of *R. pomifera*.

III.—*R. HIBERNICA* Smith. A stoloniferous shrub, with somewhat arching main stems, 4 to 6 feet in height, and more robust shoots than the preceding. Stems densely beset with prickles, which pass gradually into aciculi, and sometimes furnished also with a few setæ. Largest prickles of the mature stems with bases three-eighths or even half an inch deep, narrowed suddenly to a compressed needle, the prickle three-eighths of an inch long, varying from nearly straight to decidedly falcate, and the prickles and aciculi of the flowering shoots often curved considerably. Well developed leaves of the barren shoot of the year about four inches from their base to the apex of the terminal leaflet, which is broadly ovate and measures an inch and a quarter long by three-quarters or seven-eighths broad. All the leaflets bright green above, paler and somewhat glaucous beneath, and (in the Yorkshire and Cheshire plants) quite without hairs, and with only an occasional seta on the midrib beneath and the petioles, the serrations as sharp and close as in the ordinary forms of *canina*, the lower teeth occasionally gland-tipped. Stipules glabrous on the back or very nearly so, and not at all glandular, with lanceolate erecto-patent auricles, rather closely setoso-ciliated, the bracts the same. Peduncles quite naked, solitary, or two or three together, and on vigorous shoots, as in all the rest, except the essentially solitary flowered species, there may be as many



as a dozen in a cluster. Calyx tube quite glabrous, sub-globose or tending towards ovate, the segments about three-quarters of an inch in length, conspicuously leaf-pointed and more usually pinnate than simple, quite glabrous on the back, but with an occasional gland on the edges. Styles hairy. Petals pale pink, the expanded corolla measuring not more than an inch and a half across. Sepals spreading at right angles from the tube or even somewhat reflexed after the petals fall, afterwards ascending. Fruit ripe in October, globose-urceolate, deep red and pulpy, measuring about half an inch each way, crowned by the persistent ascending or spreading sepals. This has been met with by Mr. Borrer and Professor Oliver in the vale of Lorton, in Cumberland; by Professor Oliver at Witton-on-the-Wear, in Durham; by Mr. Webb in hedges near Great Meols, in Cheshire; and by Mr. Mudd and myself in hedges at Newton and in Airy-holme Wood, in Cleveland, in North Yorkshire. In Mr. Watson's herbarium there are two specimens from Surrey, labelled "Roadside at Combe Wood, on the left hand side near the top of the hill, coming from the Robin Hood, towards Kingston: only one bush actually seen and that I took away \* \* Mr. R. Castle," and there are as confirmation of this several small specimens of what is evidently the same amongst some roses dried by Mr. Watson, from Mr. Castle's garden. The Yorkshire, Cheshire, and Surrey plants have quite glabrous leaves and petioles, whilst the original Irish rose which was described under this name has hairy petioles, and the midrib and principal veins on the under side of the leaf are somewhat hairy also. Unless it be that in the latter the sepals are a little more setose at the edge, I do not detect any other difference. The Cumberland plant is slightly hairy; the Durham one I have not seen.

The plant found by Professor Oliver, in Northumberland, in the dale of the Coquet, which is placed doubtfully under this species in Babington's Manual, presents some striking points of divergence from the type, in the direction of *R. Sabini*. The prickles of the main stem are more slender, and the large ones hardly at all curved. The peduncle instead of being glabrous is rather closely aciculate and setose up to the top. The leaves in shape recalc those of *Sabini*, the leaflets of the barren shoots being much rounded, often quite cordate at the base, and the serratures more open and blunt than in the type. The petioles are slightly hairy and setose, and the leaves very slightly hairy beneath.

Here then the range of variation is as follows :—

1. *eu-hibernica*, peduncles naked, petioles hairy, leaves hairy beneath.
2. *glabra*, peduncles naked, petioles and leaves hairless.
3. *cordifolia*, peduncles aciculate and setose, leaves broader and more bluntly toothed, almost hairless.

Closely allied as they are in many respects, if *R. Sabini* by the clothing, tothing, and odour of its leaves recalls the *Villosæ*, *R. hibernica*, in a similar manner, reminds us of *canina*. The French *R. Biturigensis*, *Boreau*, is quite intermediate between this group and *R. rubiginosa*. It has as numerous and as unequal prickles as *R. Sabini* in combination with leaves glabrous above and hardly hairy beneath, but densely covered with viscid glands, and the French *R. Schultzii*, *Ripart*, classed by Dèseglise amongst the *Caninæ*, comes very near our *R. hibernica*, *var. glabra*.

## PART II.—VILLOSÆ.

Strong bushes with suberect, or somewhat arching stems. Prickles uniform, slender, straight or nearly curved, narrowed suddenly from above the base to a compressed needle. Leaves doubly serrated, more or less hairy all over above, conspicuously hairy and usually more or less furnished with reddish resinous glands beneath. Peduncles aciculate and setose, or very rarely naked. Sepals setose on the back, spreading or connivent, never reflexed upon the fruit, truly persistent or sub-persistent. Styles free, villose.

IV.—*R. MOLLISSIMA*. *Willd. Fries*. A tufted shrub, with suberect not arching stems six or seven feet high and stiff spreading branches, which are deep vinous-glaucous in exposure, and with soft grey unfolded upper leaves. Prickles of the well-matured stem uniform or nearly so, the base about a quarter of an inch deep, the lower part slender, the prickle from three-eighths to half an inch long, narrowing gradually to a long needle-like point, the upper line scarcely at all curved, but often declining considerably from a right angle with the axis. Well developed leaves of the shoots of the year from four and a half to five inches from the base to the apex of the terminal leaflet, which is broadly ovate,

rounded or even cordate at the base, and measures from an inch and a half to one and three-quarters long by fully an inch broad. Leaflets rugose and strongly veined, generally softer and greyer than in any of the other species, glaucous-green, and covered with a thick coating of soft white hairs on the upper surface, paler and still more hairy beneath, usually furnished with a few reddish-brown glands on the under side, the serratures open and furnished with two or three fine gland-tipped teeth, the petioles villose and setose, and furnished with two or three needle-like aciculi. Stipules and bracts hairy and more or less glandular on the back, copiously setosociliated, the former with ovate-lanceolate spreading auricles. Peduncles usually so short that they are hidden by the stipules and bracts. Calyx tube ovate-urceolate or subglobose, purplish and bloomy in exposure, varying from glabrous to densely aciculate and setose, the segments about three-quarters of an inch long, leaf-pointed, entire or only slightly pinnate, densely clothed on the back with setæ and aciculi. Petals almost crimson in bud, usually deep rose-coloured when expanded, beautifully veined with a deeper red, sometimes paler, sometimes pure white, occasionally gland-ciliated along the edge, about as long as the larger sepals, so that the expanded corolla is about an inch and a half across. Styles villose. Sepals erecto-patent or connivent after the sepals fall. Fruit ripening in the North of England early in August, sometimes even changing colour in the latter part of July, more or less typically globose in shape, at first a reddish-orange, finally a bright crimson, in fine specimens measuring five-eighths of an inch each way, crowned till it fades by the truly persistent sepals, the stalk sometimes erect but not unfrequently cernuous.

With us but little liable to vary. The principal change is in the clothing of the leaves, which are usually soft and grey, and with very few glands beneath, but sometimes greener, harsher, and more glandular, and the same may be said of the sepals. From *tomentosa* the nature of the fruit furnishes the best character of distinction. Although they flower at the same time, this species ripens its fruit at least a month earlier. By the middle of August its bright crimson globes, often gracefully pendant from the cernuous peduncles, are already a conspicuous object in the hedge rows. They soon grow pulpy in texture, the skin and juice having a pleasant acid flavour, are crowned to the end by the truly persistent connivent and sparingly compound sepals, and deliquesce with the early frosts. As in *tomentosa* both naked and prickly fruited forms are common. The ciliation of the petals, as above described, which is mentioned both by

Fries and Dèsegliſe as a character of *mollissima* is quite unusual in our plant, and occurs also in undoubted *tomentosa*. In the latter the fruit is typically ovate, but so great is the resemblance between the two in other points, that often dried specimens in flower are hardly distinguishable.

According to Fries it is universally distributed throughout Scandinavia, and it is the only British rose that reaches Lapland, whilst *tomentosa* is confined to the south west, and in Scandinavia proper is almost restricted to Gothland. Scandinavian specimens from Swartz in Mr. Robertson's collection, and from Hartmann in Mr. Watson's, seem to coincide with our plant, except that Swartz has confused it with *tomentosa*. In the North of England it comes next to *canina* and *tomentosa* in order of frequency and in North Yorkshire reaches 500 yards above the sea level. Mr. Watson's specimens shew a diffusion in Britain from Orkney (J. T. Syme) to the Isle of Wight (A. G. More), but its distribution in the South of England apart from *tomentosa* still wants working out. The same may be said of its distribution in Central Europe. Crepin gives it as a Belgian species,—Reichenbach unites it with *pomifera*,—both Koch and Grenier with *tomentosa*. There are specimens from Frankfort in Mr. Watson's collection. Von Garcke (1868) does not mention it at all for Northern and Central Germany. *R. ciliato-petala* of the 2nd edition of Koch's Synopsis from Tyrol and Carniola is the same plant or closely allied. I have it from two places in Savoy. Boreau gives it as very rare in Central France. Four of Dèsegliſe's species, *R. mollissima*, *Grenierii*, *minuta*, and *resinosa*, are very near to our plant. The same may be said of the Styrian *R. resinosa* of Sternberg and Reichenbach. Whether *R. mollissima* of Reuter be the same is doubtful, but his *R. pomifera* apparently includes *R. Grenierii* of Dèsegliſe, which is certainly far nearer *mollissima* than the genuine *pomifera*.

A plant which grows in hedges at Woodend near Thirsk may perhaps be worth placing as a variety. It has a taller stem than in the type, more glandular leaves, petioles and bracts, sepals copiously setose on the back, fully an inch long, furnished with leafy points, and three out of the five with long toothed pinnæ, erecto-patent upon the fruit. When in flower this looks more like *tomentosa* than *mollissima*, but in the nature of its fruit and prickles it coincides with the latter. This is referred doubtfully by Dèsegliſe to *R. resinosa*, but does not quite agree with the specimens which he sends, which have greener and less hairy leaves, more glandular beneath, and shorter and more glandular sepals.

*R. pomifera*, *Herm.*, though almost always given as distinct, is in reality very near to *R. mollissima*, with which it coincides in the persistence of its sepals and the early date at which the fruit ripens. Its habit of growth is more robust. The leaves are larger, more lengthened out in proportion to the breadth, attaining two inches or more when fully developed, the upper part somewhat dilated and rhomboidal-obovate in outline, the texture hardly so soft, the serrations more open and many times finely toothed. The sepals are an inch long, two usually simple, and the other three considerably pinnated. The fruit is globular or even depressed, measuring in fine specimens three-quarters of an inch across, and is described as dark purplish-red with a glaucous bloom, the peduncles being cernuous and the calyx tube very prickly. The unripe fruit is figured from a garden specimen at E. B. 583, along with a flowering branch of *R. Sabini*. There are specimens in flower both in Mr. Watson's and Mr. Syme's collections, labelled "Cotes heath, Staffordshire, June 25, 1850, Rev. R. C. Douglas," but it is a rose not very uncommonly grown in gardens and hardly likely to be a native of Britain. According to Fries it is scattered over the East of Norway, Sweden, Gothland and Denmark. According to Crepin it is doubtfully indigenous in Belgium. It is scattered over the North of Germany (Hamburg, Coblentz, Frankfort, &c.) In France it is not known to occur in the eastern half, and according to Boreau it is doubtful as a plant of the *Centre*, but there are numerous stations in the hilly tracts of the West, in the Pyrenees, and in Savoy and Switzerland. If the use of the Linnean name *villosa* be continued, it is this plant that has the best right to it. (See Fries Novit. Fl. Suce.)

V.—*R. TOMENTOSA*. *Smith*. A tufted shrub with somewhat arching stems, eight to ten feet high, erecto-patent or diffuse branches, which are purplish in exposure, and soft greyish unfolded leaves. Prickles of the well-matured stem uniform, the base about quarter of an inch deep, the prickles three-eighths to a quarter of an inch long, considerably less robust at the lower part than in *R. canina*, but often more so than in the preceding, varying in shape from straight to falcate. Well developed leaves of the barren stem measuring from four and a half to five inches from the base to the apex of the terminal leaflet, which is ovate or elliptical, rounded or even cordate at the base, and measures from an inch and a half to one and three-quarters long, by from one inch to one and a quarter broad. Leaflets grey-green or full green, and more or less thickly covered all over with hairs on the upper surface, paler and more hairy beneath, varying from

almost or quite glandless to thickly glandular all over the blade, the serratures open and furnished with two or three fine gland-tipped teeth, the petioles villose, more or less glandular and furnished with two or three setaceous or slightly hooked aciculi. Stipules and bracts more or less densely hairy and glandular on the back, copiously setoso-ciliated. Peduncles longer than in the preceding, more or less densely aciculate and setose. Calyx tube ovate-urceolate or subglobose, aciculate and setose or naked, the segments from three-quarters to an inch long, leaf-pointed and often more or less pinnate, the more luxuriant ones copiously so, all densely coated on the back with setæ and aciculi. Petals normally of a bright clear rose-colour, sometimes white, occasionally ciliated along the outer edge with a row of glands, just shorter than the largest sepals, so that the expanded corolla measures about an inch and three-quarters across. Styles hairy. Sepals erecto-patent after the petals fall. Fruit ripening in the North of England through September, varying from ovate-urceolate to subglobose in shape, measuring from five-eighths to an inch long and from half to three-quarters of an inch broad, finally bright crimson, the sepals usually adhering till it changes colour, but falling as it ripens, only accidentally lasting through the winter.

Here the prickles vary much in shape and robustness, the leaves in hairiness and especially in glandulosity, and the calyx tube and fruit in shape. On the whole it appears much more likely to be confused with the preceding, from which, as already explained, the nature of the fruit best distinguishes it. After the examination of several authenticated specimens, I do not see how *R. Sherardi* or *subglobosa* and *scabriuscula* are to be characterised even as varieties. Subglobose fruit does not always go with falcate prickles, and in the plants which combine the two there is no uniformity in the coating of the leaves. *R. scabriuscula*, *Winch*, is not exactly the same as *R. scabriuscula*, *Smith*. (See Eng. Flora.) Of the French species I do not see how *R. cuspidata*, *subglobosa*, *tomentosa*, and *Andrzejowskii* are to be separated. Our common North of England plant agrees best with M. Dèseglise's description of *cuspidata* and to this he refers many of the specimens out of a range of forms which I sent. A Yorkshire plant which M. Dèseglise refers to *Andrzejowskii* has sepals which fall as the fruit ripens,\* and in other respects I cannot distinguish it from that just

\* Perhaps I ought to explain in what sense I am using the terms which refer to the duration of the sepals. By *deciduous* sepals, I understand those which fall,—casual

referred to. I am not sure that I have seen anything in England which exactly corresponds with the French *tomentosa*, which has ovate-urceolate fruit in combination with glandless leaves. Devonshire specimens from Mr. Briggs agree well with the French *subglobosa*, which has glandless leaves and subglobose fruit, but hardly hooked prickles like Smith's plant. Mr. Borrer's specimens of Smith's original Tunbridge Wells *subglobosa* have slightly glandular leaves and stipules and the calyx segments more roughly coated on the back with aciculi and setæ than in any other form I have seen. The name *subglobosa* is applied in Switzerland to a plant which is considered as distinct from *tomentosa* by M. Reuter, but according to specimens from Dr. Fauconnet, this is identical with the French *subglobosa*, not with Smith's plant. *R. tomentosa* γ of Woods and Borrer, of which there is an original specimen amongst Mr. Robertson's Roses, seems to me to belong to the *Canina*, under which it will be noticed.

I have not seen this species from further north in Britain than Aberdeenshire. In the North of England it is the commonest rose except *canina*, and like the preceding ascends to 500 yards above the sea level. I should suppose it to be much more plentiful in the South of England than the preceding, and have specimens now before me from Devonshire, Sussex, and Kent. Its restricted distribution in Scandinavia has already been pointed out, but throughout all the rest of the adjacent parts of the continent it seems to be universally diffused.

A plant from the neighbourhood of Bradford, in West Yorkshire, contributed to Mr. Watson's collection by the late Mr. Hailstone comes near *R. farinosa*, *Rau*. It has slender prickles, hardly at all curved, leaves thinly hairy on both sides, very slightly glandular on the midrib beneath, hairy petioles with but few setæ, quite naked subglobose calyx tube, naked or very slightly setose peduncles, sepals almost all quite simple, with a lengthened leafy point, some with a broad tomentose margin and very slightly glandular on the back, but others green to the edge and very thinly coated with setæ.

exceptions excepted,—before the fruit changes colour; by *subpersistent* sepals I understand those which mostly adhere till the fruit changes colour, but fall,—casual exceptions excepted,—as it ripens; and by *persistent* sepals only those which endure till the fruit itself gives way. It seems to me that the important distinction is between the latter and the two others, but M. Desèglise appears to characterise the sepals as persistent in all the species where they last till the fruit ripens. So far as I know in the British species it is only to *R. mollissima* and the *Spinosissima* that the *persistent* really applies.

## PART III.—RUBIGINOSÆ.

Bushes of various size and habit with suberect or arching stems. Prickles uniform or intermixed with aciculi and a few setæ, the full sized ones falcate or uncinatè, with the lower part moderately robust. Leaves doubly serrated, glabrous or slightly hairy above, more or less covered with hairs and viscous often odorous glands beneath. Peduncles aciculate and setose or occasionally naked. Sepals more or less glandular or setose upon the back, spreading upon the fruit, deciduous or subsistent. Styles free, moderately hairy or glabrous.

VI.—R. RUBIGINOSA. Linn. A shrub four or five feet in height, with hardly arching main stem and comparatively short more or less compact branches. Mature stem furnished with numerous large prickles, plentifully intermixed with either setaceous or slightly curved aciculi and sometimes a few setæ, but not passing down into them gradually as in the *Spinosissima*. Large prickles with narrowly elliptical bases about a quarter of an inch deep, the prickles from three-eighths to half an inch long, falcate or even uncinatè, moderately robust below but the point long and needle-like. Well developed leaves of the barren stem measuring from two inches to two inches and a half from the base to the apex of the terminal leaflet, which varies from broadly ovate or obovate to roundish in shape, and measures from three-quarters to an inch long by from three-eighths to five-eighths broad. Leaflets bright green above, glabrous or very slightly hairy, pale green beneath, hairy only on the midrib and veins, but thickly covered all over with viscid odorous glands, the serratures open and much toothed, each tooth being gland-tipped, and the petioles both setose and hairy, and usually furnished with numerous unequal setaceous aciculi. Stipules with erecto-patent or divergent auricles, copiously glandular but hardly hairy on the back, but the ovate lanceolate bracts nearly or quite glabrous on the back, both densely setoso-ciliated. Peduncles densely aciculate and setose. Calyx tube ovate-urceolate or subglobose, usually naked, but sometimes prickly. Sepals mostly pinnate, the more luxuriant ones with two or three long toothed spreading pinnæ on each side, glandular on the back and with a dilated leafy point, the largest about five-eighths of an inch long. Petals usually of a full rose-colour, sometimes paler,



measuring about five-eighths of an inch each way and the fully expanded corolla about an inch and a quarter across. Styles thinly hairy. Sepals spreading out at about a level after the petals fall, afterwards ascending. Fruit measuring about half an inch each way, bright scarlet in colour, typically subglobose or obovate in shape, not ripening till October, by which time most of the sepals have fallen.

In some parts of the North of England this is tolerably plentiful, but it has been cultivated so much and so long, that the stations must often be considered doubtfully indigenous. There are examples in Mr. Watson's collection from as far north as Inverness. Though in Scandinavia this is a more northern species than either *tomentosa* or *spinosissima*, I have not seen it with us at more than 250 yards above the sea level, whilst they both ascend to 500 yards. It is reported from all the adjacent parts of the continent. Of M. Dèseglise's species our plant agrees best with *R. comosa*, *Ripart*, which is included in his "Herbarium Rosarum." His *R. rubiginosa* has villose styles in combination with an aciculate ovoid calyx tube, and leaves hairy upon the upper surface. His *R. permixta* and *R. septicola* have narrower and more graceful calyces and fruit in combination with glabrous styles and pubescent stipules. Under the former of these he quotes *R. rubiginosa* of Aiton's Hortus Kewensis but I have not seen either of these from Britain.

A plant gathered by James Backhouse and myself in Swaledale, North Yorkshire, has several points of difference from that just described, and is referred doubtfully by M. Dèseglise to *R. sylvicola*, *Dèseglise* and *Ripart*. The habit of growth is looser. The main prickles are as slender as in the *Villosa*, and curved but slightly, the petioles being furnished, as in *rubiginosa*, with numerous unequal aciculi. The leaves are larger and but faintly odorous, the terminal one being obovate with a rounded base. The fruit has more of the ovate or elliptical urceolate shape of *micrantha* than that of the typical plant, and is rather prickly, but the sepals are those of *rubiginosa*, the more luxuriant ones being furnished with two or three toothed spreading pinnæ, and the styles are hairy.

VII.—*R. MICRANTHA*. *Smith*. A tufted shrub six to eight feet in height, with arching stems and ascending flexuose branches. Prickles uniform, uncinatè, those of the mature stem with bases about three-eighths of an inch deep, the prickles from a quarter to three-eighths of an inch long, narrowed suddenly above the base, but the lower part moderately robust. Well developed leaves of the barren stem from two and a half to

three inches from the base to the apex of the terminal leaflet, which is usually typically ovate, but sometimes obovate or roundish, and measures from an inch to an inch and a quarter long by from three quarters to seven-eighths of an inch broad. Leaflets thinner in texture than in the preceding, bright green and glabrous or very nearly so above, hairy on the principal ribs beneath, thickly scattered over with faintly odorous viscid glands, the serratures open and much toothed, each tooth being gland-tipped, and the petioles both pubescent and setose, and usually furnished with three or four falcate aciculi. Stipules with erecto-patent or divergent auricles, occasionally pubescent, and the lower ones always densely glandular on the back, but the upper ones and the ovate lanceolate bracts usually glabrous on the back, all densely setoso-ciliated. Peduncles densely aciculate and setose. Calyx tube narrowly ovate-urceolate, either naked or slightly prickly at the base. Sepals simple or pinnate, from three-quarters of an inch to an inch long, lengthened out and leafy at the point, but the more luxuriant ones with only one or two small narrow erecto-patent hardly toothed pinnæ on each side, all densely glandular on the back. Petals pale rose-coloured, often not more than half an inch broad and deep, so that the fully expanded corolla is scarcely more than an inch across. Styles glabrous or very nearly so. Sepals spreading out level after the petals fall, afterwards ascending. Fruit bright scarlet, in texture like that of *R. canina*, ovate or ovate-urceolate in shape, measuring about five-eighths of an inch deep by three-eighths to half an inch broad, ripening in September, by which time the sepals have all or most of them fallen.

Of our species, this is only in danger of being confounded with the last, from which it differs by its habit of growth, which resembles that of *R. canina*, by its uniform prickles, which are less numerous, more strongly toothed, and more robust below than the large ones of *rubiginosa*, by the shape of its leaves and much fainter odour of their glands; by the shape of its calyx tube and fruit, the different texture and pleasant acid taste of the latter when ripe, by its glabrous styles, and narrow-bladed long-pointed sparingly pinnate sepals, which fall before the fruit ripens. It is not known in Scandinavia. M. Crepin identifies our plant with the Belgian *R. nemorosa* of Lejeune, the *R. Libertiana* of Trattinick, and sends me what is evidently the same plant as ours, but a specimen from Cobourg in Mr. Watson's collection, marked by Herr Hornung as the authenticated plant of Lejeune, is evidently only a sylvestral form of *R. rubiginosa*. M.

Boreau and M. Désèglise have both informed me that our plant, as illustrated by specimens which I sent, is identical with the French plant which they describe as *nemorosa*. Their *R. micrantha* is a low bush with leaves not more than half an inch long by three-eighths of an inch broad, the terminal one narrowed at the base, slender scarcely curved prickles not more than a quarter of an inch long, small prickly calyx tube, short almost entire sepals and much smaller ovate-urceolate fruit. I have gathered our plant in two stations in Yorkshire, and possess it from a third, all three being very slightly elevated above the sea level. I have not seen it from anywhere further north, but it is evidently widely diffused through the central and southern counties.

VIII.—*R. BORRERI*. *Woods*. Stems six to eight feet high, arched, with ascending flexuose branches. Prickles uniform, their bases three-eighths to half an inch deep, the prickle about three-eighths of an inch long, strongly hooked and the lower part robust. Well developed leaves of the barren stem three and a half to four inches from the base to the apex of the terminal leaflet, which varies from elliptical to broadly ovate with a cordate base, and measures from an inch and a quarter to an inch and a half long by about an inch broad. Leaflets full or deep green above, thinly hairy all over when young, glabrous when mature, paler beneath, hairy principally upon the veins, thinly sprinkled over with small green viscid glands, which are sometimes confined to the midrib and secondary veins, the serratures moderately open, and each furnished with two or three fine gland-tipped teeth, the petioles pubescent and abundantly setose, and furnished with three or four falcate aciculi. Stipules with lanceolate erecto-patent auricles, the lower ones usually both pubescent and setose on the back, the upper ones and the lanceolate acuminate bracts usually glabrous, but all closely setoso-ciliated. Peduncles hispid, but much less densely so than in the preceding, the setæ and especially the aciculi weaker, sometimes altogether absent. Calyx tube gracefully ovate or elliptical urceolate, naked or casually a little aciculate. Sepals three-quarters of an inch long, the blade ovate-lanceolate, the point rather lengthened out and leafy, but not so much so as in the preceding, the more luxuriant ones furnished with two or three large toothed erecto-patent pinnæ on each side, setoso-ciliated and varying from almost naked to a good deal glandular on the back. Petals pink, from three-quarters to seven-eighths of an inch broad and deep, so that the fully expanded corolla measures about an inch and a half across. Styles hairy. Fruit ovate-

urceolate, deep scarlet, in texture resembling that of *R. canina*, ripening in September, by which time most or all of the sepals have fallen.

This species is intermediate between *micrantha* and *canina*, differing from the former by the larger size of all its parts, in which it corresponds with *tomentosa* and *canina*, by the much fewer glands of its leaves, stipules and bracts, by the feebleness of the setæ and aciculi of its peduncle, or by their entire absence, by its somewhat hairy styles, and by its broader bladed sepals which are much less glandular on the back, not so much lengthened out and dilated at the point, and the more luxuriant ones copiously pinnate, with toothed leafy pinnæ. M. Dèseglise considers it distinct from *R. inodora*, Fries, of which he has seen authenticated specimens, which I have not: but he identifies the German *R. inodora*, Reich. with our plant. Fries himself says (*Summa*) that his plant is distinct from *canina* by its densely viscid leaves and long enduring sepals, and in neither case does this seem to apply well to our plant, which is certainly not identical with, though nearly allied to, the French *R. Kluckii*. I have seen *R. Borreri* from two stations in Yorkshire—Lodge Dingle, near Settle, (John Tatham), and a hedge at Holdgate, near York, (James Backhouse)—and besides this from three counties only, Worcestershire, Sussex, and Kent. The Northumbrian *R. inodora*, Winch, may not unlikely be the true plant of Fries. It differs from *R. Borreri* by having a few setaceous aciculi and a few setæ intermixed with its prickles, leaves more glandular beneath and the glands faintly odorous, the terminal leaflet being nearly as broad as long and much rounded at the base, by its deeper coloured flowers, more elongated calyx tube and fruit, and more persistent sepals. The specimens which I have seen were gathered in a hedge at Spring Gardens, near Newcastle, by Mr. Robertson, who reports it also from Ravensworth Woods, Durham.

IX.—*R. JUNDZILLIANA*, Besser. A vigorous bush with arching stems, about six feet in height, and the habit and appearance of *R. tomentosa*. Prickles uniform, the base about three-eighths of an inch deep and the prickles about the same length, the lower part moderately robust, the prickles curved but slightly and the point long and needle-like. Well developed leaves of the barren stem from four to four and a half inches from the base to the apex of the terminal leaflet, which is broadly ovate or elliptical, rounded or even almost cordate at the base, and measures from an inch and a quarter to an inch and a half long by fully an inch broad. Leaves full green above, thinly hairy all over when young, but becoming

glabrous as they mature, glaucous or greyish green beneath, thin in texture, hairy only on the principal veins, but thinly covered all over the blade with green viscous mealy glands, the serratures open and each furnished with two or three gland-tipped teeth, the petioles only thinly hairy but plentifully setose, furnished with three or four slightly curved aciculi, and sometimes several smaller setaceous ones in addition. Lowest stipules not hairy but slightly glandular on the back, the upper ones and the ovate-lanceolate bracts almost or quite naked. Peduncles and ovate-elliptical calyx tube densely aciculate and setose. Sepals five-eighths to three-quarters of an inch long, ovate-lanceolate with the point not much lengthened out or dilated, mostly with two or three toothed leafy pinnæ on each side, tomentose towards the edges, rough on the back with setæ and aciculi, spreading out level after the petals fall, afterwards ascending. Petals pink, the flower the same size as that of *R. tomentosa*. Styles thinly hairy. Fruit subglobose or broadly elliptical urceolate, prickly or nearly naked, three-quarters to seven-eighths of an inch deep by three-quarters broad, the sepals falling before it changes colour.

Gathered by Mr. F. M. Webb and Mr. H. S. Fisher in a hedge near Morton, Cheshire, only one bush actually known. The Cheshire plant agrees well with my specimens of the French plant from M. Dèseglièze, except that the prickles are rather more robust. This appears to be intermediate between *R. tomentosa* and *R. Borreri*, differing from the former by its prickles, which are more of the *Rubiginosa* than the *Villosa* type, leaves thinner and more delicate in texture, glabrous above when mature, hairy only on the veins beneath but covered all over with fine green viscid glands and by its stipules and bracts not hairy on the back and only the lower ones glandular; and from the latter by its stout subglobose prickly fruit, peduncles and calyx tube densely beset with setæ and strong aciculi, and sepals tomentose at the edges and densely coated on the back.

X.—*R. CRYPTOPODA*. Prickles somewhat unequal, the larger ones uncinate and moderately robust below. Leaves from three to three and a half inches from the base to the apex of the terminal leaflet, which is ovate or elliptical, either rounded or somewhat narrowed towards the base, and measures rather more than an inch long by three-quarters of an inch wide. Leaflets greyish or glaucous green, glabrous on the upper surface, still greyer beneath, hairy only on the midrib and principal veins, but thinly scattered all over with green viscous glands, the serratures open but not deep, each furnished with several fine gland-tipped teeth, the petioles

pubescent and setose, and furnished with two or three falcate aciculi. Stipules glandular on the back or even a little pubescent, the upper ones and the bracts very large, when the plant is in flower quite hiding the short peduncles, the bracts also glandular on the back but not hairy, all finely setoso-ciliated. Peduncles very short and quite naked. Calyx tube broadly ovate or subglobose, quite naked, glaucous and tinged with purple. Sepals five-eighths to three-quarters of an inch long, naked on the back but somewhat hairy towards the edges, the more luxuriant ones furnished with three or four erecto-patent toothed pinnæ on each side, all copiously setoso-ciliated. Petals deep red, the flowers measuring about an inch across. Styles villose. Fruit subglobose, not at all narrowed at the neck, measuring about five-eighths of an inch each way, ripening in September, by which time the erecto-patent sepals have all fallen.

Found by Mr. S. King in the neighbourhood of Luddenden, near Halifax, in West Yorkshire. This comes near to *R. sepium*, *Thuill.* from which it differs by the size, shape, and colour of its leaves, their hairy ribs and petioles, its peculiar bracts, stipules, and peduncles, subglobose fruit, slightly hairy sepals and villose styles. It is nearer still to the French *R. virgultorum*, *Ripart*, (*R. neglecta*, *Ripart olim, non Leman*), but this has firm textured green leaves glabrous on both sides, more glandular beneath than in our plant, the terminal leaflet often much narrowed at the base, petioles densely setose but not hairy, similar fruit, peduncles and sepals, but only slightly hairy styles.

*R. sepium*, *Thuillier*, is a low shrub only three or four feet in height, with long flexuose pendant or spreading branches. The prickles are numerous and somewhat unequal, the large ones about three-eighths of an inch long, not much hooked but the lower part robust. The leaves measure about two inches from the base to the apex of the terminal leaflet, which varies in shape from obovate-lanceolate narrowed at the base to elliptical narrowed out at both ends, and is not more than three-quarters of an inch long by three-eighths broad. The leaflets are bright green and glabrous, though sometimes a little glandular on the upper surface, glabrous also but more or less thickly covered with viscid glands beneath, the serratures fine and forward-pointing with fine gland-tipped teeth, the petioles densely setose but not pubescent and hardly at all aciculate. The stipules and bracts are densely glandular on the back, but not hairy. The peduncles and narrow ovate or elliptical-urceolate calyx tube are quite naked. The sepals are about five-eighths of an inch long, naked on the

back, the limb lanceolate, some of them simple, some of them with two or three toothed linear erecto-patent pinnæ on each side, and are all copiously gland-ciliated. The petals are pinkish or nearly white, measuring about five-eighths of an inch each way, so that the fully expanded corolla is about an inch and a quarter across. The styles are glabrous or nearly so, the fruit being gracefully oblong-urceolate in shape, measuring about three-quarters of an inch long by three-eighths wide, with the sepals all fallen by the time it changes colour. This is a plant of Belgium, France, and other parts of Central and southern Europe. I have not seen specimens of the Warwickshire plant which is figured under this name in "English Botany," but it appears from the figure and description to come very near to the above, and may not unlikely be identical with or near to the French *R. Lemanii*, Boreau, which is stated to differ from *sepium* by its oval leaflets which are slightly hairy beneath, hispid peduncles and oblong calyx tube, which also is sometimes prickly at the base.

#### PART IV.—CANINÆ.

Robust bushes with more or less conspicuously arching main stems and diffuse branches. Prickles uniform, robust below and narrowed gradually from the base to the point. Leaves simply or doubly serrated, glabrous or slightly hairy above, glabrous or somewhat hairy beneath, but never more than slightly glandular. Sepals reflexed or erecto-patent on the fruit, deciduous or sub-persistent, usually glabrous, but sometimes glandular on the back. Peduncles usually naked, occasionally aciculate and setose. Styles free, varying from almost glabrous to densely villose.

XI.—*R. CANINA*. *Linn.* The plants included here differ from one another widely, if we take the extremes, in many points of importance, especially in the shape, toothing and clothing of the leaves and stipules, the texture and time of ripening of the fruit, and the direction and duration of the sepals; but in spite of this, each of them, is always connected with the one that is nearest to it very closely. We have here an excellent illustration of what one school of botanists considers to be a single variable species, and what another school considers to be a large group of closely allied species. As furnishing an illustration bearing instructively upon the question of the nature of species, I have taken considerably more pains with the English Caninæ, than I should other-

wise have done. The following are as good descriptions as I am in a position to furnish of the English Dog-roses which have come under my notice, and I would ask the particular attention of my readers to the two points to which allusion has just been made, how widely the extremes differ, but how gradual is the transition between them by intermediate stages of gradation. With the kind aid of M. Dèsegliè, to whom I am indebted for excellent specimens of nearly all the *Caninae* described in his Monograph, I have identified as far as I can our plants with those of the Continent, with what result will appear from the list. Nearly all the forms have arched stems from six to ten or even twelve feet in height, plentifully furnished with lithe greenish ascending branches. The prickles are uniform and either falcate or uncinatè, their base from three-eighths to half an inch deep, the prickle curving gradually from this to the point, and consequently the lower part more robust than in any of the previous groups. The flowers are from one and a half to two inches across, generally pale pink, and the measurement of the leaf and leaflets about the same as in *R. mollissima* and *tomentosa*.

SUBSECTION I. EU-CANINÆ. Leaves not glandular beneath, peduncles naked or very nearly so, fruit stone-hard when green, not ripening till October or the latter part of September, the sepals reflexed after the petals fall, and deciduous before the fruit changes colour.

(A) Leaves glabrous on both sides.

1. *R. lutetiana*, Leman. *R. canina*, Boreau and Dèsegliè. Leaves full green or somewhat glaucous green, not flat, firm in texture, glabrous on both sides, the terminal leaflet ovate, narrowed or somewhat rounded at the base, the serratures numerous, simple, sharp, and connivent, the petioles naked or nearly so, but furnished with three or four hooked aciculi. Stipules and bracts naked on the back, not at all or only the auricles setoso-ciliated. Peduncles naked. Calyx tube and fruit varying from ovate-urceolate to subglobose, the sepals leaf-pointed, and fully pinnate, naked or slightly hairy on the back towards the edge, hardly setoso-ciliated. Sepals reflexed after the petals fall, the fruit ripening in October or late in September, before which the sepals fall. Styles slightly hairy. Common.

2. *R. dumalis*, Bechst. *R. canina*, Leman. *R. surmentacea*, Woods. *R. glaucophylla*, Winch. Habit of growth and prickles of the normal plant. Leaves full green or glaucous green, not flat, firm in texture, glabrous on



both sides, the terminal leaflet ovate, narrowed or somewhat rounded at the base, the serratures neither so numerous nor so close as in the preceding, each or several furnished with from one to three gland-tipped teeth, the petioles more or less setose, not hairy or only very slightly so, but furnished with three or four hooked aciculi. Stipules and bracts naked on the back, but closely setoso-ciliated. Peduncles naked. Calyx tube and fruit varying from ovate-urceolate to subglobose, the sepals leaf-pointed and fully pinnate, naked or slightly hairy on the back towards the edge, more or less densely setoso-ciliated. Fruit as in the preceding. Styles hairy, sometimes a little protruded. Very common.

(B) Leaves glabrous above, hairy on the veins beneath.

3. *R. urbica*, Leman. *R. collina*,  $\beta$  Woods. *R. Forsteri*, E. B. S. Habit of growth and prickles of the normal plant. Leaves full green or glaucous green, not flat, firm in texture, glabrous above, hairy on the ribs beneath, the terminal leaflet ovate, narrowed or somewhat rounded at the base, the serratures numerous, sharp, simple, and connivent, the petioles villous, but only slightly setose, furnished with three or four hooked aciculi. Stipules and bracts slightly hairy on the back, a little setoso-ciliated. Peduncles naked. Calyx tube and fruit broadly elliptical or subglobose, the sepals leaf-pointed and fully pinnate, hairy on the back towards the edges, slightly setoso-ciliated. Fruit as in the preceding. Styles hairy. This and the two preceding appear to be much the commonest British *Caninae*, and to be quite identical in the nature of the fruit and duration of the sepals. A closely allied plant from Hawnby bank, and hedges at Sowerby, near Thirsk, with slightly double serrations, peduncle a little aciculate, sepals not fully reflexed and a little glandular on the back, is referred doubtfully by Dèseglise to *R. platyphylloides*, Ripart.

4. *R. platyphylla*, Rau. Habit of growth and prickles of the normal plant. Leaves flat, grey-green, glabrous on the upper surface, glaucous beneath and hairy upon the ribs, firm in texture, the serrations moderately sharp and connivent, somewhat unequal but not truly double, the terminal leaflet varying from ovate rounded at the base to broadly obovate, in fine specimens measuring two inches long by an inch and a half broad, the petioles densely villous, but hardly setose, furnished with several hooked prickles. Stipules and bracts slightly hairy on the back and a little setoso-ciliated. Peduncles naked. Calyx tube and fruit broadly ovate or subglobose, the sepals leaf-pointed and fully pinnate, pubescent on the back,

but hardly at all gland-ciliated, reflexed after the petals fall. Styles villose. The ripe fruit I have not seen on British specimens. Giggleswick and Settle, West Yorkshire.

(C) Leaves more or less hairy on both sides.

5. *R. uncinella*, Bess. Habit of growth and prickles of the normal plant. Leaves flat, grey-green, slightly hairy on the upper surface when young, but glabrous when mature, greyer still and hairy all over beneath, so that the edge is ciliated, firm in texture, the serrations simple, spreading and open, as broad as they are deep, callous at the tips, the terminal leaflet broadly ovate or obovate, much rounded at the base, the petioles villose but hardly at all glandular, furnished usually with two or three hooked prickles. Stipules and bracts slightly hairy on the back, dentate but hardly at all gland-ciliated. Peduncles naked. Calyx tube and fruit large, broadly elliptical or subglobose, the green fruit rather more pliable than in the preceding, the sepals reflexed after the petals fall, leaf-pointed and fully pinnate, tomentose and slightly glandular on the back, hardly at all setoso-ciliated. Styles villose. Banks of the Yore at Aysgarth Force, North West Yorkshire.

6. *R. dumetorum*, Thuill. Woods. Habit of growth and prickles of the normal plant. Leaves flat, grey-green, thinly hairy all over above when young, greyer still and hairy all over beneath, thicker and softer in texture than in any of the preceding, the terminal leaflet large, broadly ovate, rounded or often cordate at the base, the serrations simple, open, and neither sharp nor deep, the petioles villose but hardly at all setose or aciculate, stipules and bracts hairy on the back, dentate but hardly at all setoso-ciliated. Peduncles naked. Calyx tube and fruit with us usually large ovate-urceolate, sometimes subglobose, the green fruit more pliable than in the preceding and ripening rather earlier. Sepals fully pinnate and leaf-pointed, reflexed after the petals fall, hairy on the back, but hardly at all gland-ciliated, deciduous before the fruit ripens, which with us is in the latter fortnight of September. Flowers somewhat deeper in colour than in the preceding. Fruit in the large ovate-urceolate form fully an inch long. Frequent. This is intermediate in appearance and the character of its leaves between *R. lutetiana* and *coriifolia*, but as regards the fruit ranges best here.

7. *R. pruinosa*. *R. casia*, Borrer in Brit. Fl. in part not *E. B.* Stems less arching and prickles more slender than in the normal plant. Leaves

flat, glaucous green above, thinly hairy all over when young, glabrous when mature, still more glaucous beneath and hairy all over, the terminal leaflet broadly ovate, roundish or even cordate at the base, the serrations open and furnished with one or two gland-tipped teeth on each side, the petioles villose and copiously setose. Stipules and bracts hairy on the back and setoso-ciliated. Peduncles naked. Calyx tube and fruit subglobose, resembling that of the preceding, but the sepals more setoso-ciliated. This is Mr. Robertson's *R. casia*, but it differs considerably from Mr. Borrer's Argyleshire plant which was figured under that name in English Botany, and which will be described afterwards. This resembles closely *R. dumetorum*, differing principally by its glaucous doubly-toothed leaves. Mr. Robertson's specimens which I have seen were gathered by the bridge between Swallow and Axwell Park, Durham. I have gathered a similar plant on Marrick Moor, North West Yorkshire, and a form with sepals glandular all over on the back, in thickets by the Swale side, near Keld.

8. *R. canescens*. Habit of growth and prickles of the normal plant. Leaves grey-green above, tolerably firm in texture, thinly hairy all over when young, but hardly so when mature, very grey beneath and thinly hairy all over but not at all glandular, the terminal leaflet not more than ovate rounded at the base, the serrations open but not deep, furnished with two or three accessory gland-tipped teeth on each side, the petioles villose but very slightly setose, furnished with two or three hooked aciculi. Stipules and bracts hairy on the back and closely setoso-ciliated. Peduncles naked. Calyx tube broadly ovate, scarcely urceolate. Sepals hairy on the back, leaf-pointed and copiously pinnate, closely setoso-ciliated, reflexed after the petals fall. Fruit obovate or subglobose, stone hard when green, not ripening till October, by which time the sepals have fallen. This has a considerable resinous scent, and leaves much resembling those of *tomentosa* in combination with the fruit of normal *canina*. M. Desèglise considers it nearer to the former than the latter. Hedges near Thirsk, North East Yorkshire.

SUBSECTION II. SUBCRISTATÆ. Leaves not glandular beneath, peduncles naked or nearly so, fruit pliable when green, ripening early in September, the sepals erecto-patent after the petals fall and usually adhering until after the fruit changes colour.

9. *R. Crepiniana*, Desèglise. Habit of growth and prickles of the normal plant. Leaves somewhat glaucous-green, especially beneath, gla-

brous on both sides, the serrations large, simple, and forward-pointing, the terminal leaflet ovate or elliptical, usually narrowed at the base, the petioles prickly, but hardly at all setose, and not at all or but slightly hairy. Stipules and bracts glabrous on the back, hardly at all setoso-ciliated. Peduncles naked, short, often hidden by the stipules and bracts. Calyx tube and fruit naked, subglobose, rather glaucous. Sepals naked on the back, leaf-pointed and copiously pinnate, hardly at all gland-ciliated, erecto-patent after the petals fall. Fruit turning scarlet early in September, most of the sepals adhering until it is fully ripe. Styles densely villose. Hedges at Kilvington, North East Yorkshire, and I have gathered similar plants, with casually aciculate peduncles, and sepals slightly glandular on the back, near Woodend, North East Yorkshire, and near Chesterholme, Northumberland.

10. *R. subcristata*. *R. tomentosa*,  $\gamma$  Woods. Habit of growth and prickles of the normal plant. Leaves somewhat glaucous-green above, more so beneath, glabrous on both sides, the serrations somewhat open and each furnished with one or two accessory gland-tipped teeth, the terminal leaflet elliptical or ovate, a little rounded at the base, the petioles prickly, a little hairy and rather copiously setoso-ciliated. Stipules and bracts naked on the back but setoso-ciliated. Peduncles naked. Calyx tube and fruit ovate-urceolate or subglobose, the sepals somewhat tomentose towards the edges and more or less gland-ciliated. The fruit ripening and the sepals adhering just as in the preceding. Styles villose. This grows in numerous stations in North Yorkshire, and there are specimens in Mr. Watson's collection from Perthshire. As in the preceding there is a form with the sepals glandular on the back, and there is a beautiful Rose which grows at Keld, in Swaledale, with deep red flowers, slightly prickly peduncles and sepals glandular on the back, which agrees with this in other respects. The specimens of the plant of Woods which I have seen are from Loch Tay, gathered by Mr. Borrer, to whose remarks in the British Flora reference should be made. This plant has a subglobose calyx tube, and some of the peduncles a little aciculate.

11. *R. Watsoni*. *R. bractescens*  $\beta$  Woods. Leaves glabrous on the upper surface, the teeth sharper and closer than in the next, not always simple, the accessory serrations gland-tipped, somewhat hairy beneath, the terminal leaflet ovate, the petioles villose but hardly at all setose. Stipules and bracts nearly glabrous on the back, slightly setoso-ciliated, not peculiarly large nor hiding the peduncle as in the next. Peduncle and

ovate-urceolate calyx tube naked. Sepals erecto-patent after the petals fall, leaf pointed and fully pinnate, glandular all over the back. These notes are taken from an authenticated specimen of the plant of Woods, from Ambleside, Westmoreland, in Mr. Robertson's collection, and there are specimens which agree with it amongst Mr. Watson's Roses, gathered by himself by the roadside between Daliwhinnie and Etrisk in Inverness-shire. It evidently connects the following and the preceding.

12. *R. coriifolia*, Fries. *R. sepium*, Swartz, non Thuill. *R. sepincola*, Swartz. *R. bractescens*, Woods. *R. frutetorum*, Besser, Boreau. Branches purple in exposure, prickles more slender and not so much curved as in the normal plant. Leaves greyish-green above, rather thickly hairy all over, paler beneath and softly hairy all over the underside, the serrations simple, spreading, shallow, as broad as deep, the terminal leaflet broadly ovate or obovate, rounded at the base, the petioles villose, but hardly at all setose, furnished with one or two small prickles. Stipules and bracts large, villose on the back, hardly at all gland-ciliated. Peduncle short, quite naked, hidden by the bracts and stipules. Calyx tube naked, broadly ovate or subglobose, purple in exposure. Sepals leaf-pointed and copiously pinnate, erecto-patent after the petals fall, hardly at all gland-ciliated, naked on the back, but usually tomentose towards the edges. Styles villose. These notes are taken from a specimen gathered by Woods at the original locality of Ulverstone in Lake-Lancashire, and from a precisely similar example gathered by Mr. Watson, near the Castletown of Braemar, in 1844. Neither of these shews the mature fruit, but there can be, I think, no question of the identity of our plant with that of the Continent. There is an excellent Scandinavian specimen from Swartz, under his original name of *sepium*, amongst Mr. Robertson's Roses. It is included both in flower and fruit in Dèseglise's Herbarium Rosarum, from the Canton of the Hautes Alpes, and is described in his Monograph; and I have it from Savoy, gathered both by the Abbé Puget and Dr. Fauconnet. Fries says that the fruit ripens a month before that of *canina*, and he calls the sepals persistent, but they appear to endure, as in the other plants placed in this sub-section, only until after the fruit changes colour, and to fade and fall as it ripens. It is described from Northern Germany by Von Garcke, and from the vicinity of Geneva by Reuter: and *R. crassifolia*, Wallmann, and *R. terebinthinacea*, Grenier, appear to be the same plant. A specimen gathered by Winch, near Newcastle-on-Tyne, has the large bracts and short peduncles of this, but leaves in shape, clothing, and toothing, more like those of the preceding.

13. *R. celerata*. Habit of growth and prickles of the normal plant. Leaves flat, firm but thin in texture, full green and glabrous on the upper surface, pale green and hairy on the midrib and principal veins beneath, the serratures open and as broad as deep, each furnished with two or three fine gland-tipped teeth on each side, the terminal leaflet broadly ovate and much rounded at the base, the petioles pubescent and setose, and prickly. Stipules and bracts copiously setoso-ciliated, naked or nearly so on the back. Peduncles naked. Calyx tube and fruit subglobose, the latter turning scarlet very early in September, the sepals erecto-patent after the petals fall, leaf-pointed and copiously pinnate, somewhat tomentose towards the edges, copiously setoso-ciliated and mostly lasting until after the fruit changes colour. Styles hairy. Thickets in Holywell dene, Northumberland. This agrees with *tomentella* in the shape of the leaves, but differs in the fruit.

SUBSECTION III. HISPIDÆ. Leaves not glandular beneath, but the peduncles and often the calyx tube also more or less densely aciculate and setose. (For a notice of forms with casually aciculate peduncles see under Nos. 3, 9 and 10.)

14. *R. Andevagensis*, Bast. *R. canina*  $\gamma$  *glandulifera*, Woods. Leaves firm in texture, glabrous on both sides, the serratures sharp, connivent and simple, the terminal leaflet broadly ovate and somewhat rounded at the base, the petioles not hairy and only very slightly setose and prickly. Stipules and bracts glabrous on the back, slightly gland-ciliated. Peduncles and base of calyx tube rather closely aciculate and setose, the latter ovate urceolate or subglobose, the sepals pinnate and leaf pointed, glandular and prickly on the back, but hardly at all gland-ciliated. Sepals reflexed after the petals fall. Styles villose. The specimens which I have seen of this are from the Pass of Lanrick, gathered by Mr. Borrer, and from Braemar, gathered by Mr. Watson. Mr. Borrer's plant has the stipules, bracts, peduncles and calyx tube, deeply tinged with red. The continental *Andevagensis* has the sepals usually naked on the back.

15. *R. verticillacantha*, Merat? Habit of growth and prickles of the normal plant. Leaves firm in texture, bright green above, paler beneath, glabrous on both sides, the serrations sharp but moderately open, and each furnished with one or two gland-tipped teeth, the terminal leaflet ovate a little rounded at the base, the petioles densely setose but only slightly hairy and furnished with two or three hooked prickles. Stipules

and bracts naked on the back but closely setoso-ciliated. Peduncles densely aciculate and setose, usually shorter than the bracts. Fruit elliptical, naked, not ripening till October, the sepals somewhat glandular on the back and densely setoso-ciliated, deciduous by the time the fruit changes colour. Styles slightly hairy. These notes of character are taken from a plant of which Mr. Bromwich has sent a supply of specimens from Myton, Warwickshire to the Botanical Exchange Club. It agrees very well with my specimens, and the description of *R. verticillacantha*, but in the latter the prickles are said to be arranged "*en spire autour de la tige*." There are similar plants amongst Mr. Watson's Roses from Twycross, Leicestershire, (Rev. A. Bloxam) and Bridgewater, Somerset, (T. Clark), the latter with a densely prickly calyx tube, sepals densely glandular on the back and more hairy styles.

16. *R. casia*, *Smith*. Leaves glaucous-green and glabrous upon the upper surface, still more glaucous and hairy principally upon the veins beneath, the serrations sharp, connivent, simple, or slightly double, the terminal leaflet ovate or elliptical, narrowed or slightly rounded at the base, the petioles prickly and villose, and copiously setose. Bracts and stipules slightly hairy on the back and copiously gland-ciliated. Peduncle rather closely aciculate and setose. Calyx tube ovate-urceolate, naked, purplish with a glaucous bloom. Sepals leaf-pointed but only slightly pinnate, glandular all over the back and hairy towards the edges. These notes are taken from the original plant figured in English Botany, which was gathered by Mr. Borrer, near Taynult, in Argyleshire. A plant gathered by the Rev. W. M. Hind, near Stapenhill, Derbyshire, differs by having the leaves slightly hairy on the upper surface, the calyx tube aciculate as well as the sepals, which latter are more compound than in Mr. Borrer's plant. This and the *tomentosa* var. *incana* of Woods, which I have not seen, represent Dèsegli's subsection E, and the two former his subsection C of the *Canina*, the plants belonging to which seem to be much more plentiful in France than with us.

SUBSECTION IV. SUBRUBIGINOSÆ. Leaves slightly glandular beneath, at any rate on the midrib and secondary veins; peduncles naked or aciculate, the fruit various in character. The plants of this subsection are classed by Dèsegli with the *Rubiginosæ*.

17. *R. vinacea*. Habit of growth and prickles of the normal plant. Leaves somewhat glaucous green, firm in texture, hardly flat, quite glabrous above, paler beneath, but not at all hairy, glandular on the midrib

and principal veins, the veins prominent, the teeth sharp but moderately open, each furnished with one or two fine gland-tipped serrations, the terminal leaflet narrowly ovate, hardly rounded at the base, the petioles not hairy but prickly and densely setose. Stipules and bracts naked or slightly glandular on the back, densely setoso-ciliated. Peduncles and calyx tube naked, the latter subglobose, the sepals reflexed after the petals fall, leaf-pointed but not much pinnate, slightly glandular on the back and copiously setoso-ciliated. Fruit subglobose, not ripening till October, by which time the sepals have fallen. Styles hairy. Veins of the leaves, petioles, stipules, and bracts, all deeply tinged with red. Hedges at Thirsk, North Yorkshire.

18. *R. arvatica*, *Puget*. Habit of growth and prickles of the normal plant. Leaves firm in texture, hardly flat, glabrous above, paler beneath, and hairy on the midrib, and glandular on the midrib and secondary veins, the serrations moderately sharp, open, and numerous, and each furnished with two or three gland-tipped teeth, the terminal leaflet narrowly ovate or elliptical, narrowed at the base, the petioles both prickly and also pubescent and setose. Stipules and bracts hardly hairy on the back, but some of the lower ones a little glandular, all closely setoso-ciliated. Peduncles quite naked. Calyx tube ovate or elliptical, the sepals copiously pinnate and leaf-pointed, closely setoso-ciliated and slightly glandular on the back, spreading but not fully reflexed after the petals fall. Fruit stone-hard when green, broadly ovate or subglobose, not turning scarlet till the beginning of October, by which time the sepals have fallen. Styles glabrous or only very slightly hairy. Hedges at Sowerby and Kilvington, North Yorkshire, and there is a specimen from Newcastle in Mr. Robertson's collection, marked as a connecting link between *canina* and *inodora*. This is placed by M. Dèseglise amongst the *Rubiginosæ* near *R. sepium*, which it resembles in the styles and shape of the leaves.

19. *R. tomentella*, *Leman*. Branches unusually lithe and flexuose and prickles strongly hooked. Leaves flat, firm in texture, thinly hairy all over above when young, paler and thinly hairy all over beneath, but only very slightly glandular, the serrations open, spreading, triangular cuspidate, as broad as deep, and each furnished with three or four accessory gland-tipped teeth, the terminal leaflet broadly ovate, much rounded at the base and sometimes almost as broad as long, the petioles hairy and setose, and furnished with three or four much hooked aciculi. Stipules



and bracts slightly hairy on the back, copiously setoso-ciliated. Peduncles quite naked. Calyx tube naked, subglobose, the petals pale, the sepals leaf-pointed and fully pinnate, slightly hairy but not all glandular on the back, copiously setoso-ciliated, reflexed after the petals fall. Fruit subglobose, not turning scarlet till October, by which time the sepals have fallen. Styles hairy, somewhat protruded. This I have seen in many places in North Yorkshire, and have it also from Warwickshire. *R. obtusifolia*, Desv. *R. leucantha*, Bast. which I have not seen from Britain, is intermediate between this and No. 1.

20. *R. Bakeri*, Desèglise, Syme. Stems six or eight feet high, scarcely at all arching, purple where exposed, branches stiff and spreading, and prickles more slender and less curved than in the normal plant. Leaves full green, moderately firm in texture, covered all over with a thin coating of soft silky hairs above, paler and hairy all over beneath, with a scattering of small green viscous glands, the serrations open and many times toothed with gland-tipped teeth, the terminal leaflet ovate or obovate, either rounded at the base or narrowed from below the middle, the petioles both prickly and rather pubescent, and copiously setose. Stipules and bracts both hairy and somewhat glandular on the back, copiously setoso-ciliated. Peduncles sometimes naked, sometimes with a few weak prickles and setæ, short and often hidden by the bracts and stipules. Calyx tube naked, ovate or elliptical urceolate, the petals deeper coloured and smaller than in the type, and wavy towards the borders. Sepals one or two simple, the others copiously pinnate and leaf-pointed, all slightly glandular on the back, hairy towards the edges and copiously setoso-ciliated, erecto-patent after the petals fall. Fruit ovate or elliptical, ripening early in September, most of the sepals adhering until after it changes colour. Styles villose. Hedges at Sowerby, N. E. Yorkshire. This in many points comes near to *R. Borreri*, but the leaves are different in shape and texture, the underside very slightly glandular, the peduncles hardly at all aciculate and the sepals are subsistent.

21. *R. Blondeana*, Ripart. *R. trachyphylla*, Boreau in part. Stems dark purple and glaucous where exposed, branches more divaricated than in the normal plant, and the prickles less robust and less curved. Leaves somewhat glaucous-green above, decidedly glaucous beneath, glabrous on both sides, but glandular on the midrib, and a little over the surface beneath, the serrations moderately sharp and open, each with two or three fine gland-tipped teeth, the terminal leaflet typically ovate or rather

obovate, the petioles prickly and densely setose but not hairy. Stipules and bracts not hairy but a little glandular on the back, copiously setos-ciliated. Peduncles slightly aciculate and setose. Calyx tube naked, subglobose, the sepals leaf-pointed and copiously pinnate, glandular all over the back, erecto-patent after the petals fall. Fruit obovate or subglobose, turning scarlet early in September, by which time some of the sepals have fallen, but others remain. Styles rather thickly hairy. Hedge at Kilvington, North-east Yorkshire, and I have gathered a very similar plant, but with an aciculate calyx tube, both in Perthshire and Aberdeenshire. This and the last agree with Subsection II in the character of the fruit, but Nos. 17, 18, and 19 with Subsection I.

## PART V.—SYSTYLÆ.

Bushes with sub-erect or rampant stems, uniform short broad-based strongly hooked prickles, simply serrated leaves, glabrous on the upper surface, not glandular and at most only slightly hairy beneath, the peduncles furnished with sessile glands, or with setæ and aciculi, or occasionally naked, the deciduous sepals naked or but slightly glandular on the back, the styles united in a more or less prominent column.

XII.\*—*R. ARVENSIS*. *Huds.* A bush only three or four feet in height if not supported, with long wide-spreading trailing rooting shoots, which are purple and bloomy when exposed. Prickles of the well-matured stem uniform, the base three-eighths of an inch deep, the prickle about the same length, robust below and strongly hooked. Well developed leaves of the barren shoots from three and a half to four inches from the base to the apex of the terminal leaflet, which is usually obovate and rounded but little at the base, and measures about an inch long by from five eighths to three quarters of an inch broad. Leaflets dull green and glabrous on the

\* I ought to have explained before that what I am numbering in series which terminates here, are what I understand as species of primary value, of which I have seen specimens from the six northern counties of England.

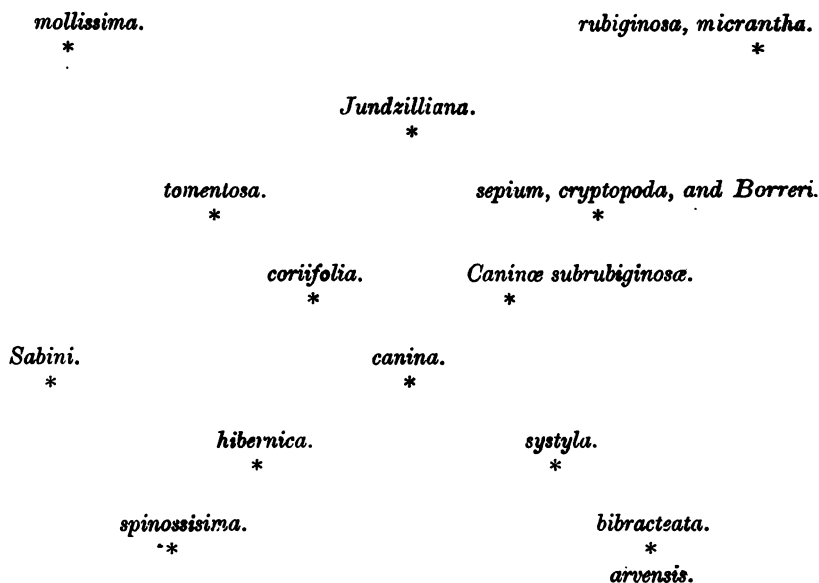
upper surface, much paler and often glaucous beneath, almost naked or hairy upon the midrib only, the teeth broad-based and not deep, and only casually double, the lower ones often gland-tipped, the petioles slightly hairy and setose and furnished usually with three or four slender falcate aciculi. Stipules and lanceolate bracts naked or very nearly so on the back, more or less densely fringed with setæ. Peduncles forming a close cluster when the shoot is at all well developed, much lengthened out but only spreading very little, purple in exposure, usually clothed densely with almost sessile purple glands, occasionally almost naked. Calyx tube varying from ovate or elliptical to subglobose, purplish and bloomy, naked or glandular just at the base, the segments usually not more than half an inch long, naked on the back, hardly dilated or leafy at the point, broad-bladed, and either entire or furnished only with one or two small linear entire pinnæ. Petals white, very rarely tinged to any considerable extent with red, considerably exceeding the sepals, the corolla measuring an inch and a half across, and spreading out widely when fully expanded. Styles in a prominent hairless column, which usually exceeds the stamens. Fruit varying from broadly ovate or elliptical to subglobose, not exceeding half an inch long, turning red in October, by which time the sepals have all fallen.

This is common in many parts of the north of England, but I have not seen it anywhere wild at an elevation of more than 200 yards, and in Scotland not from any further North than Kincardine. M. Déséglise applies the name *arvensis* to the *R. candida* of Scopoli, a closely allied plant, with solitary glandless peduncles, but there can be no doubt that what Hudson intended is our common York rose, which is the *R. arvensis* of De Candolle, the *R. repens* of Scopoli, Rau, and Reichenbach. A plant which has been gathered by Mr. T. R. A. Briggs in Devonshire, has much stronger and taller stems than in the type, in combination with more hairy leaves, roughly hairy petioles, and peduncles with more strongly stalked and more numerous glands. There can be I think but little doubt of the identity of *R. arvensis* of Borrer in Hooker's British Flora, with *R. bibracteata*, Bast. The only British specimens I have seen were gathered near Henfield by Mr. Borrer. This has stronger stems than in the type, more spreading peduncles, and leaves shining upon the upper surface. The leaves are similar in shape to those of *R. arvensis*, but the sepals are longer, a little setoso-ciliated and somewhat more pinnate. As Mr. Borrer remarks of the English, so does M. Déséglise of the French plant, that it

closely resembles the well-known *R. sempervirens* in habit and appearance, but in this the column of styles is hairy, and the leaves are evergreen. Our British *R. systyla*—the plant originally figured in English botany under the name of *R. collina*—was once supposed by Mr. Woods to be identical with Bastard's plant of this name, but afterwards both he and Mr. Borrer appear (see British flora) to have doubted their identity, and to have considered that this and the continental plants called *brevistyla*, *leucochroa*, and *fastigiata*, were really allied more closely to *R. arvensis*. I have had the opportunity lately of examining a considerable number of specimens labelled with these names by the continental botanists who are most likely to know how to apply them correctly, and my own impression is in favour of the identity of Bastard's plant with ours. In habit and appearance this latter resembles *canina* more than *arvensis*. The manner of growth is that of the former, the stems being eight or ten feet high, and the branches erecto-patent. The terminal leaflet is narrowly ovate or elliptical, the leaves being glabrous upon the upper surface, slightly hairy but not at all glandular beneath, and the serration usually as sharp and close as in the ordinary forms of the Dog Rose. The peduncles are almost always furnished, not with sessile glands as in *arvensis*, but with aciculi and setæ, as in the *Rubiginosæ* or *Villosæ*. In one instance only, that of a specimen in Mr. Watson's collection, from Leigh Woods, near Bristol, gathered by Mr. H. O. Stephens, I have seen the plant with naked peduncles. The sepals are leafy at the point, and the more luxuriant ones are furnished with two or three erecto-patent leafy pinnæ. The petals are pink, and the fruit is ovate. The column of styles is very variable in length, ranging from hardly protruded to as long as in *R. arvensis*. I have seen it from Kent and Sussex northward to Worcester and westward to Bristol. M. Déséglise distinguishes *R. fastigiata* from *R. systyla* by its leaves more hairy beneath, sepals less pinnate, and less prominent column of styles. I have seen our British *R. systyla* with the column of styles as short as in the specimen of *R. fastigiata* with which M. Déséglise furnished me, but not with the leaves so hairy on the lower surface. M. Boreau unites *systyla* and *fastigiata* together. *R. leucochroa* and *stylosa* have white flowers, and leaves more like those of *bibracteata* and *arvensis* than *canina*. Whether these are inhabitants of Britain still remains to be shown.

To conclude with a general summary of what has been advanced with regard to the affinities of the British species, we can perhaps best express their

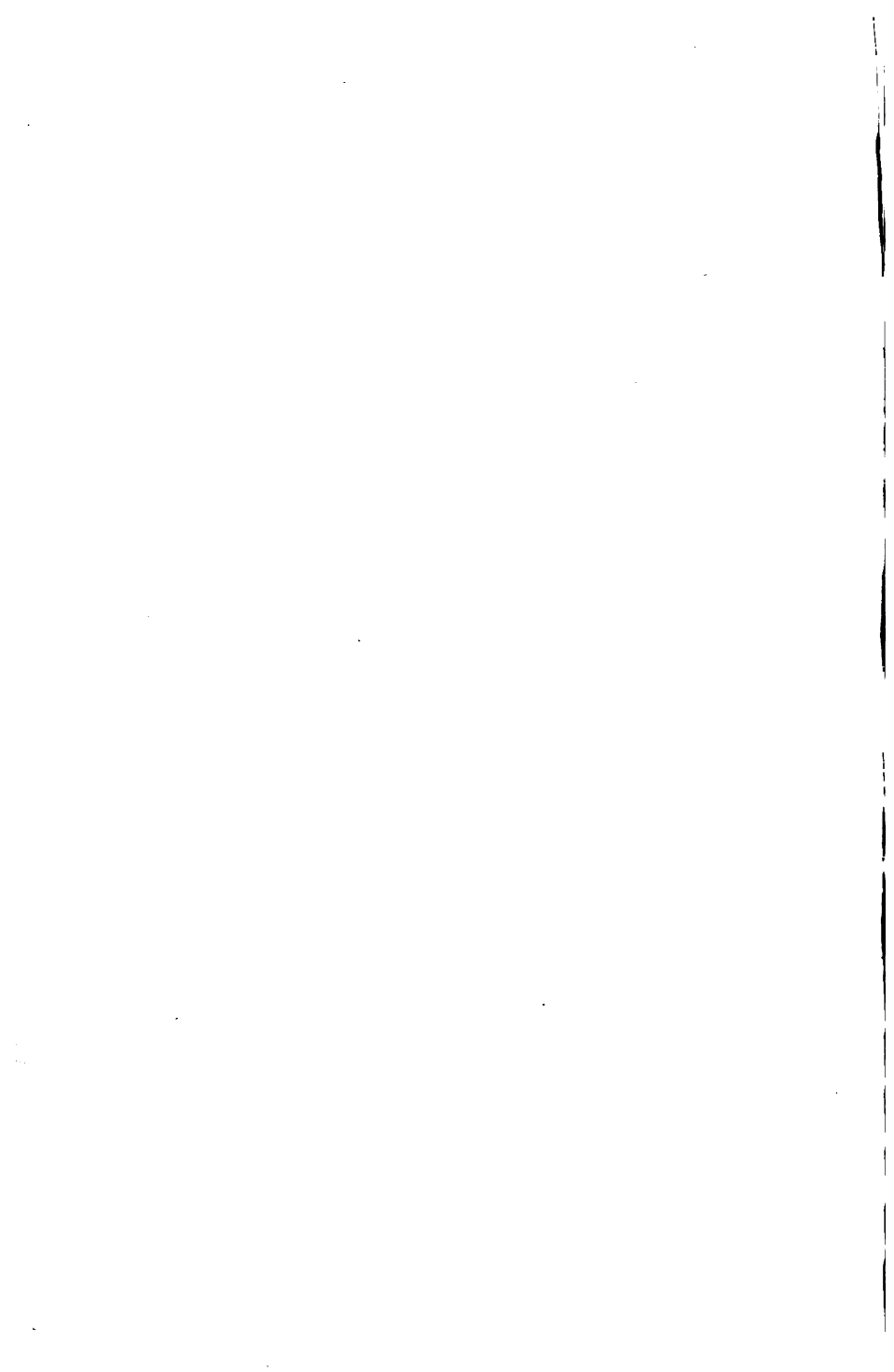
mutual relationship by a diagram, in which *canina* is placed in the centre of a circle, and the species which differ from it most at the circumference. The result will then be something like the following :—



As nearly as I can estimate, if we were to adopt with regard to the British Roses, a similar rendering of what constitutes a species to that employed by M. Désèglise, in his "Monograph" for France, the following would be the result :—

Spinossissimæ .....	8
Villosæ .....	6
Rubiginosæ .....	8
Caninæ .....	22
Systylæ .....	3
Total .....	47



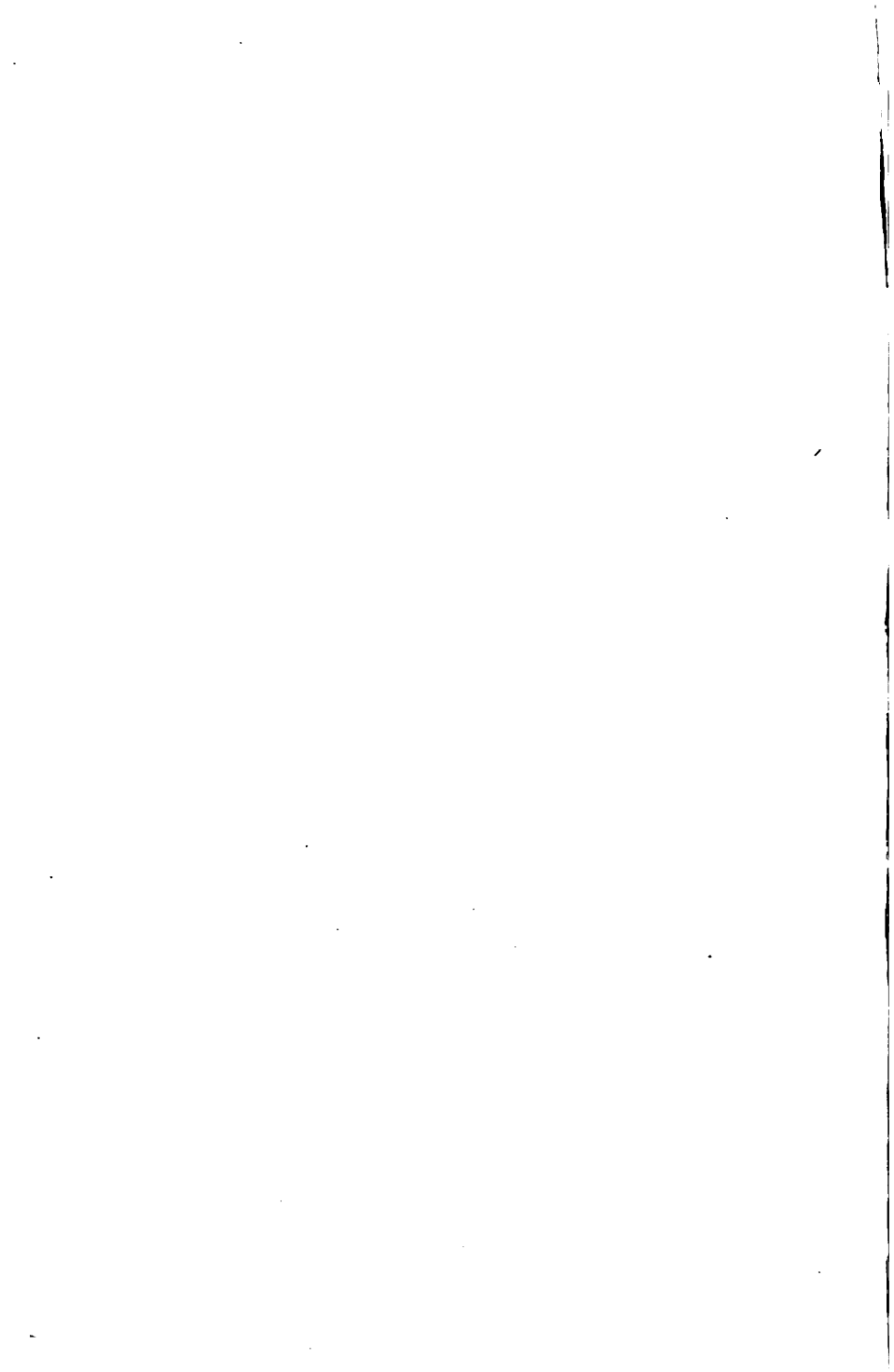




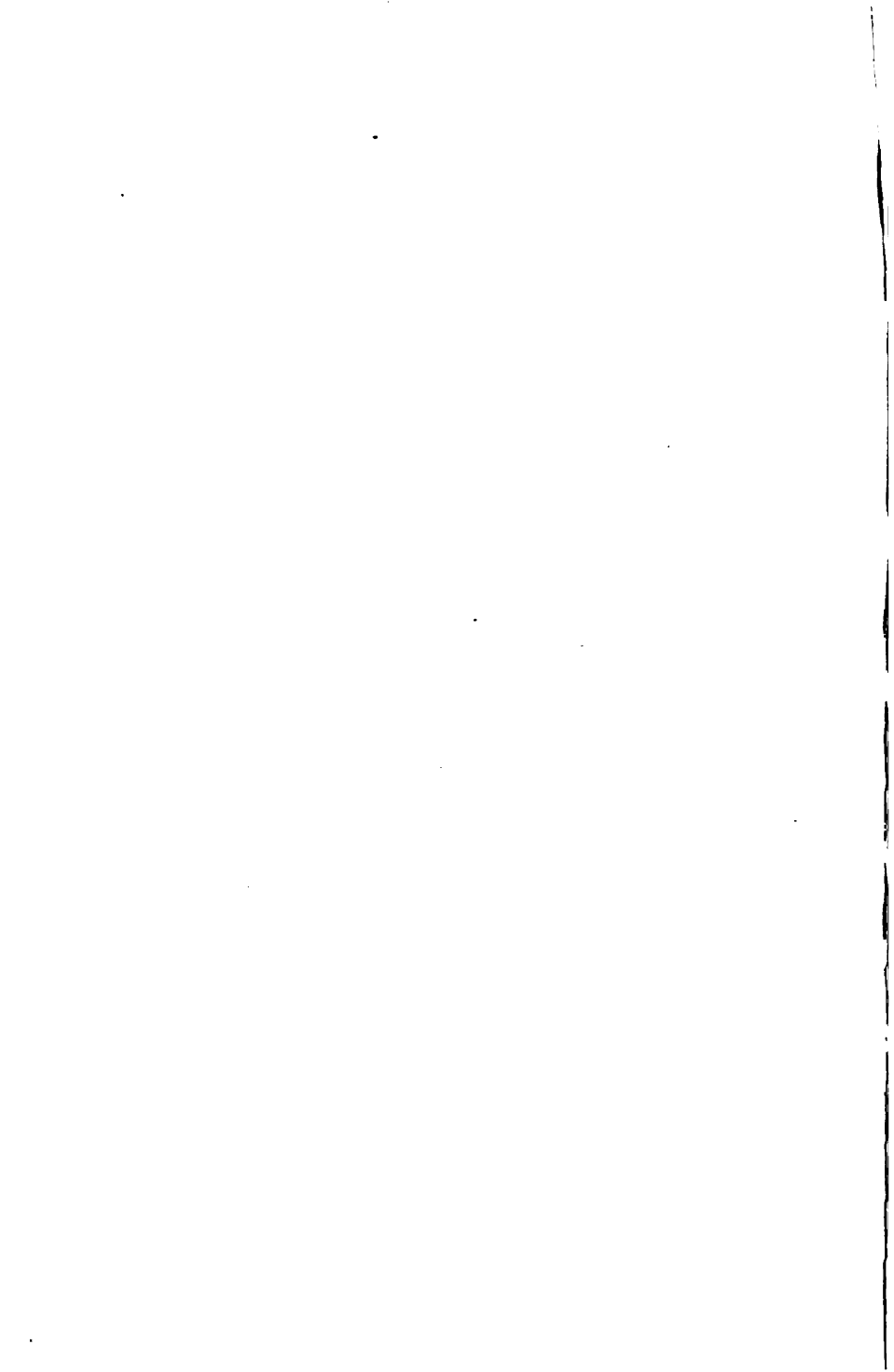




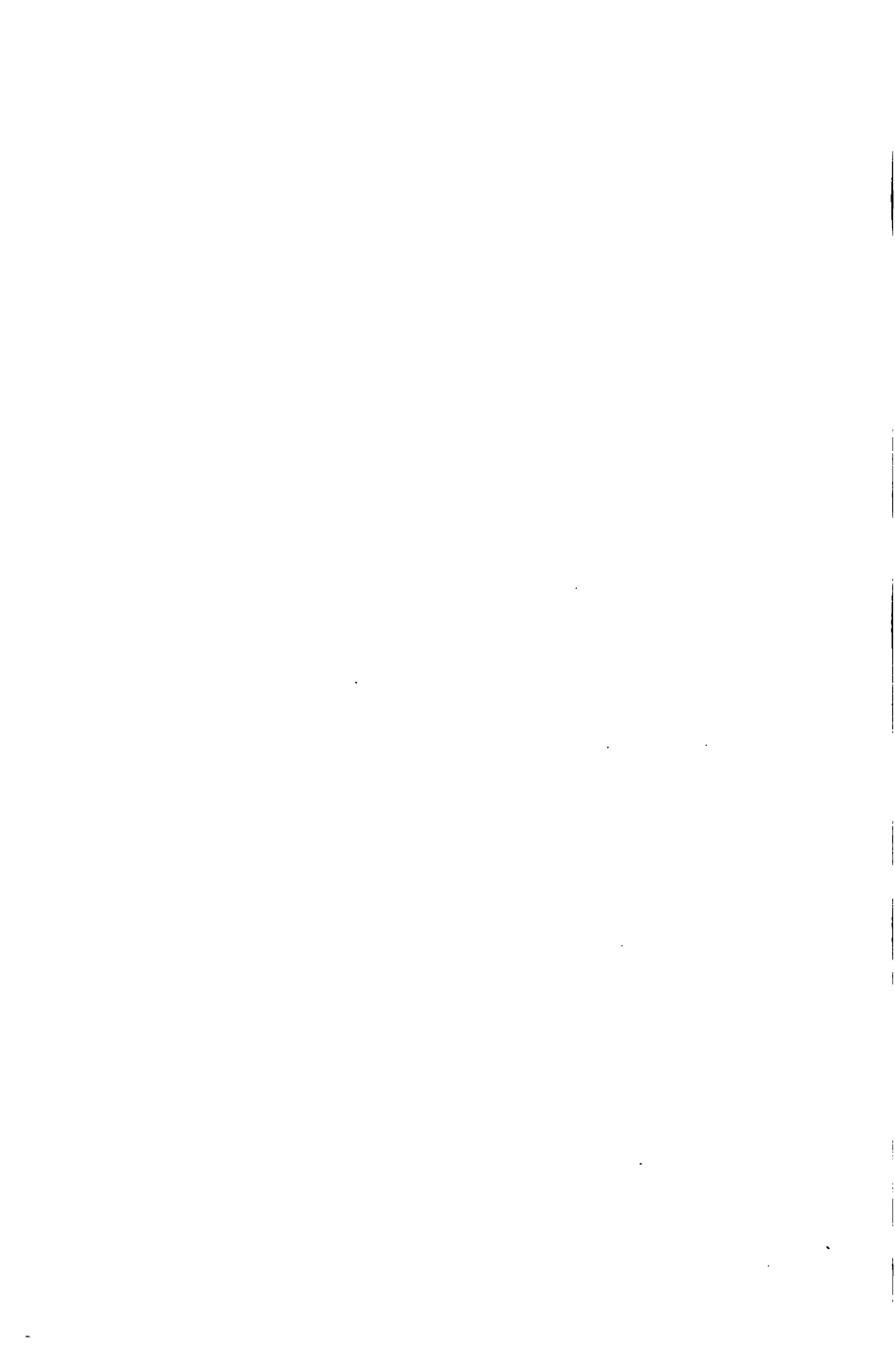


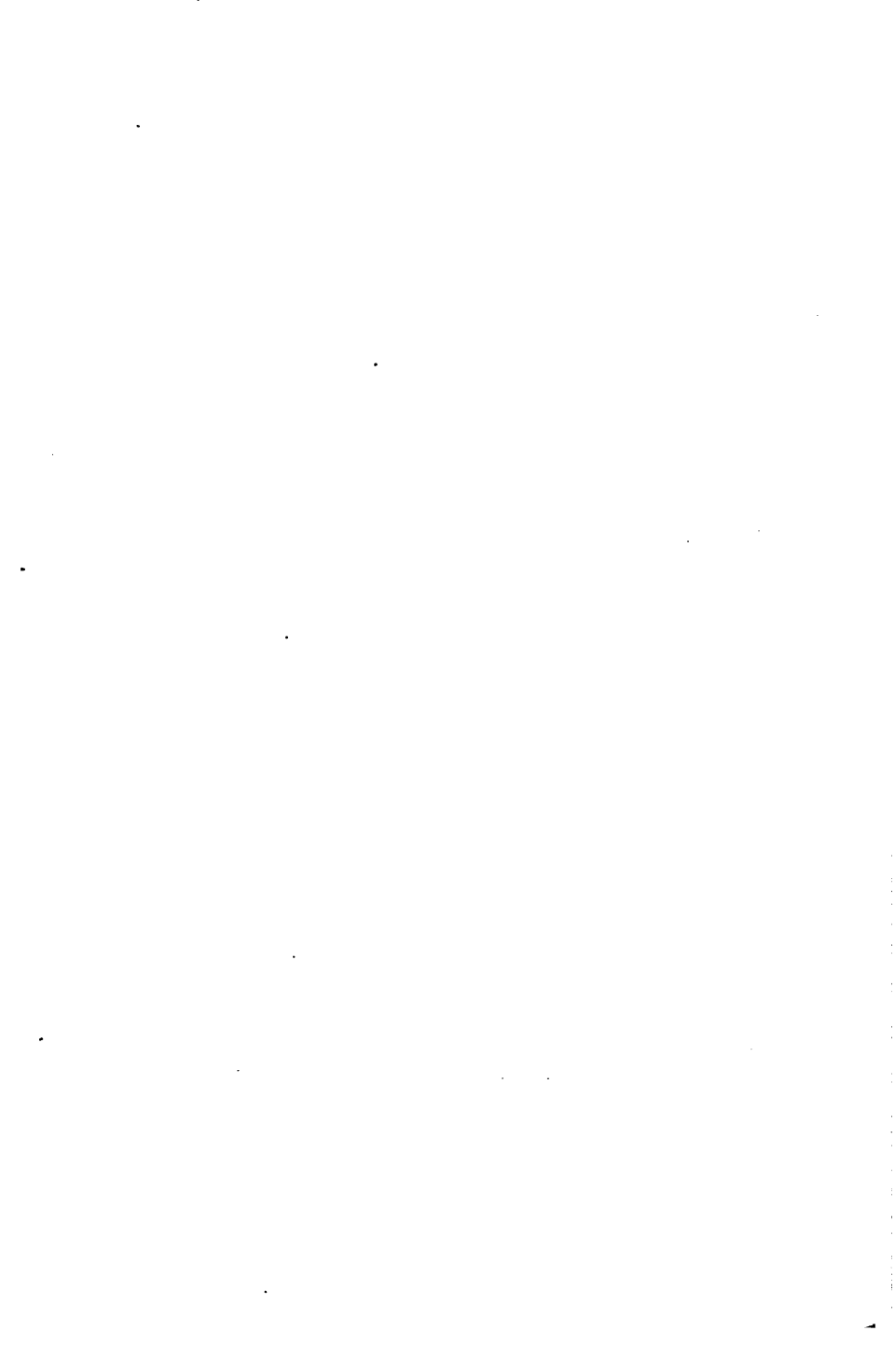












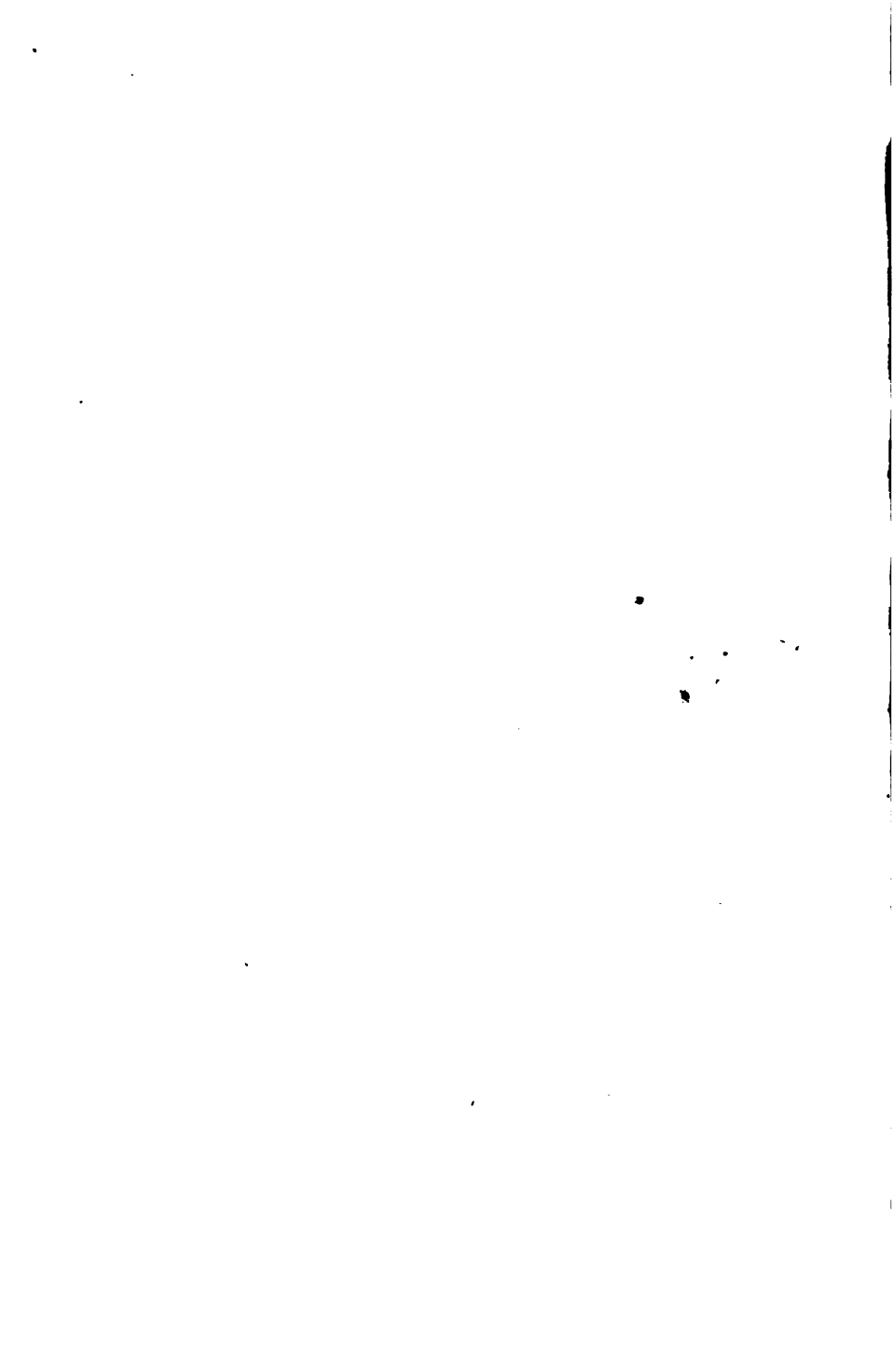






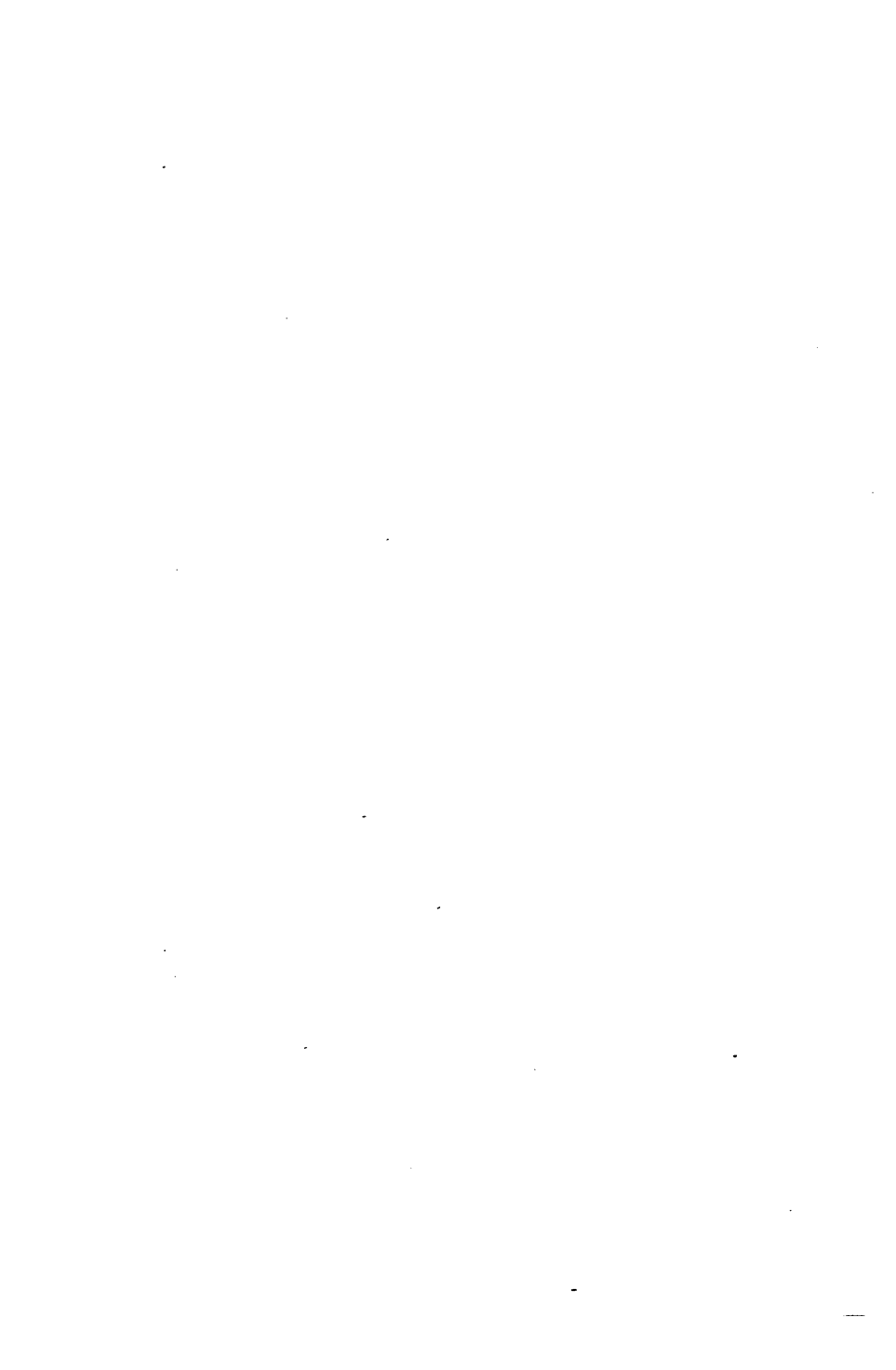


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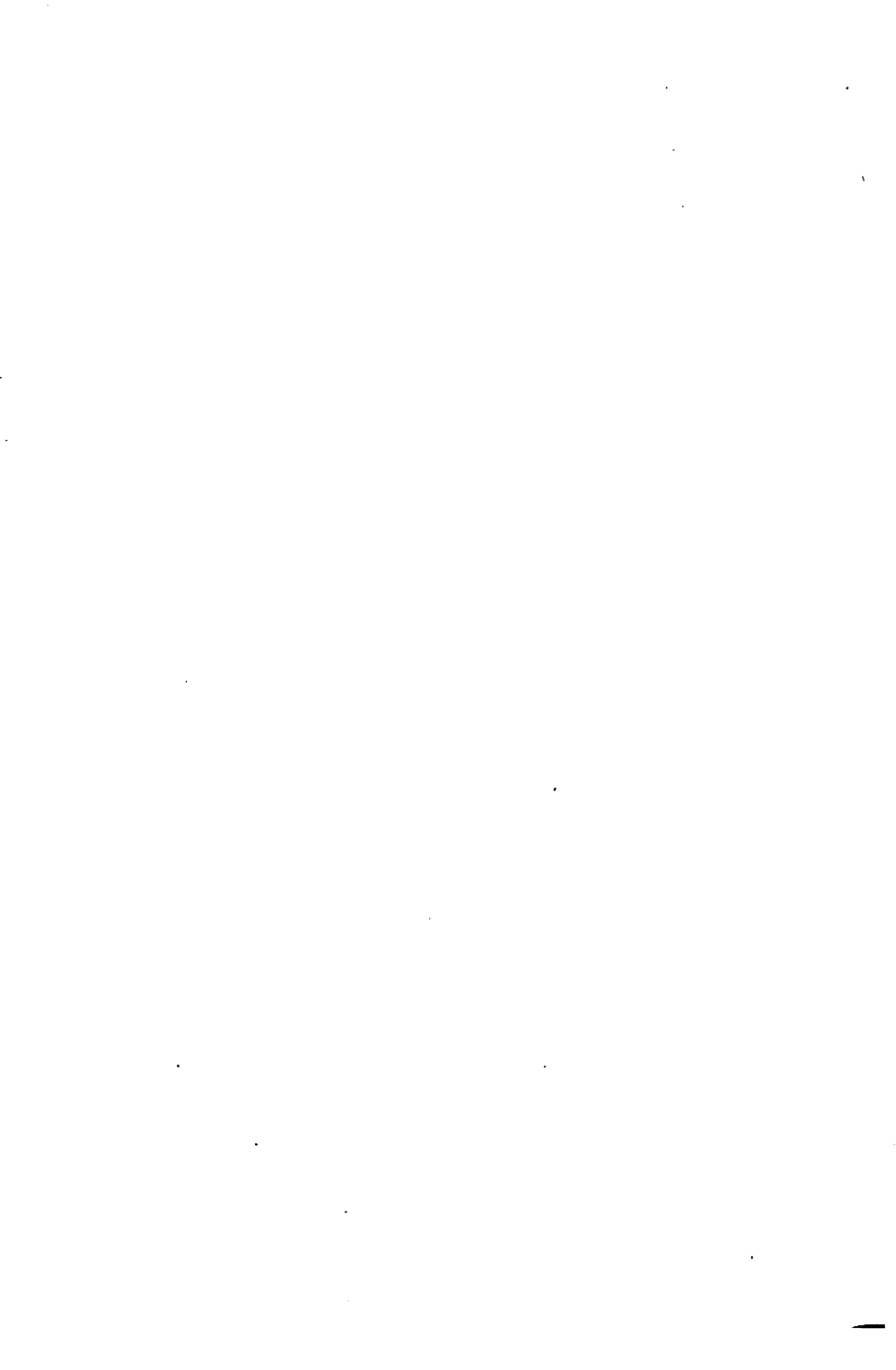


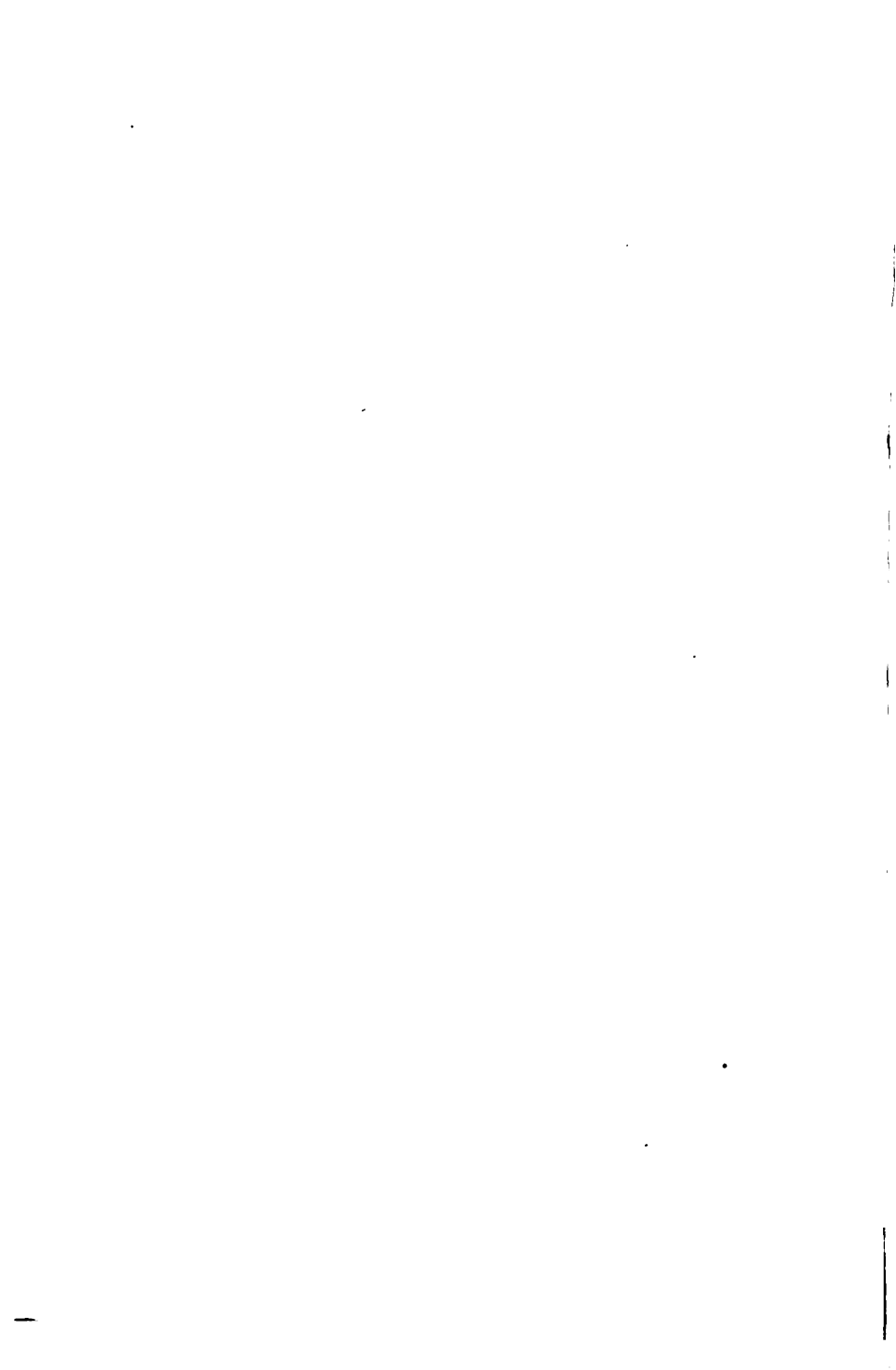










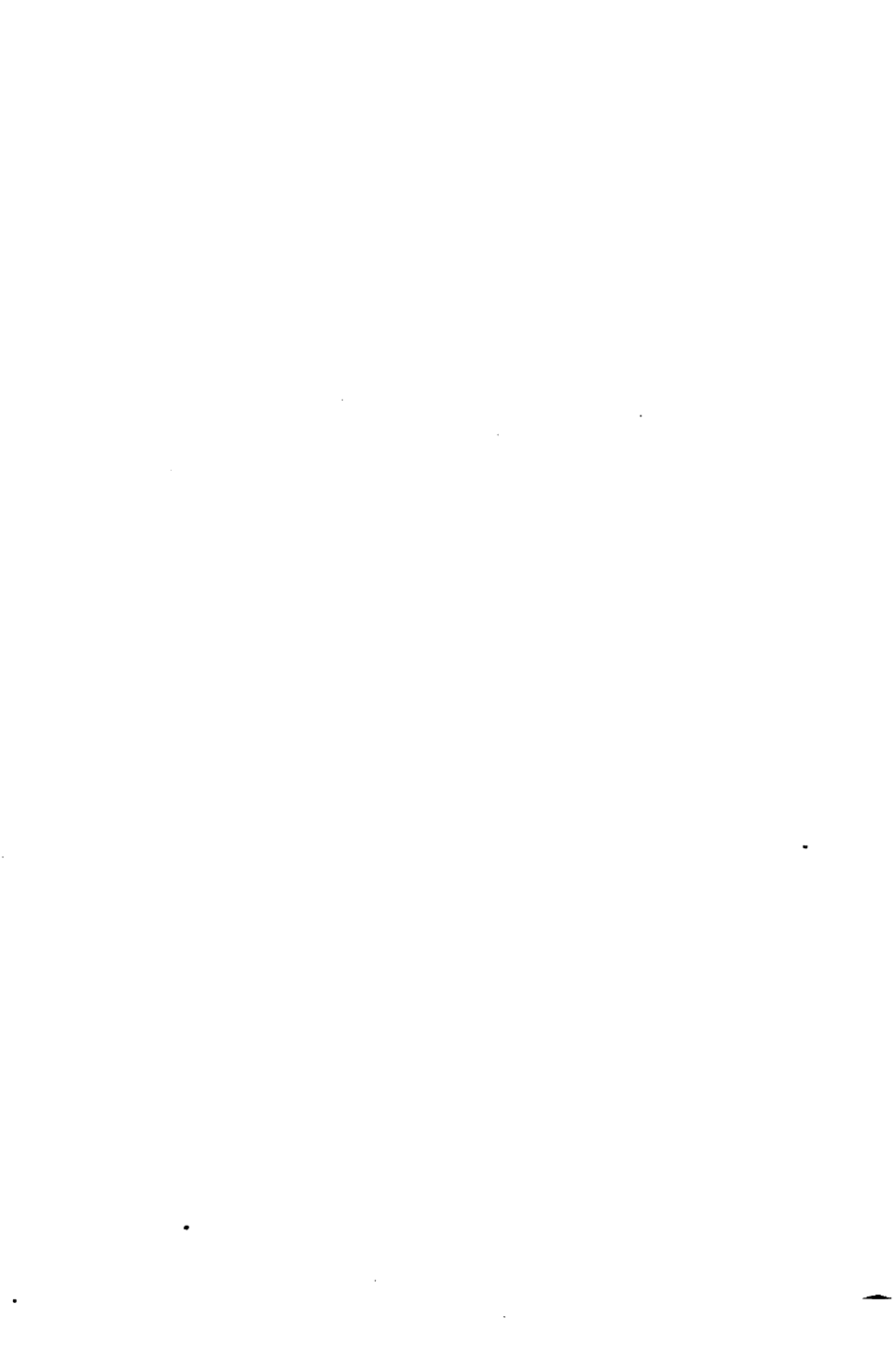










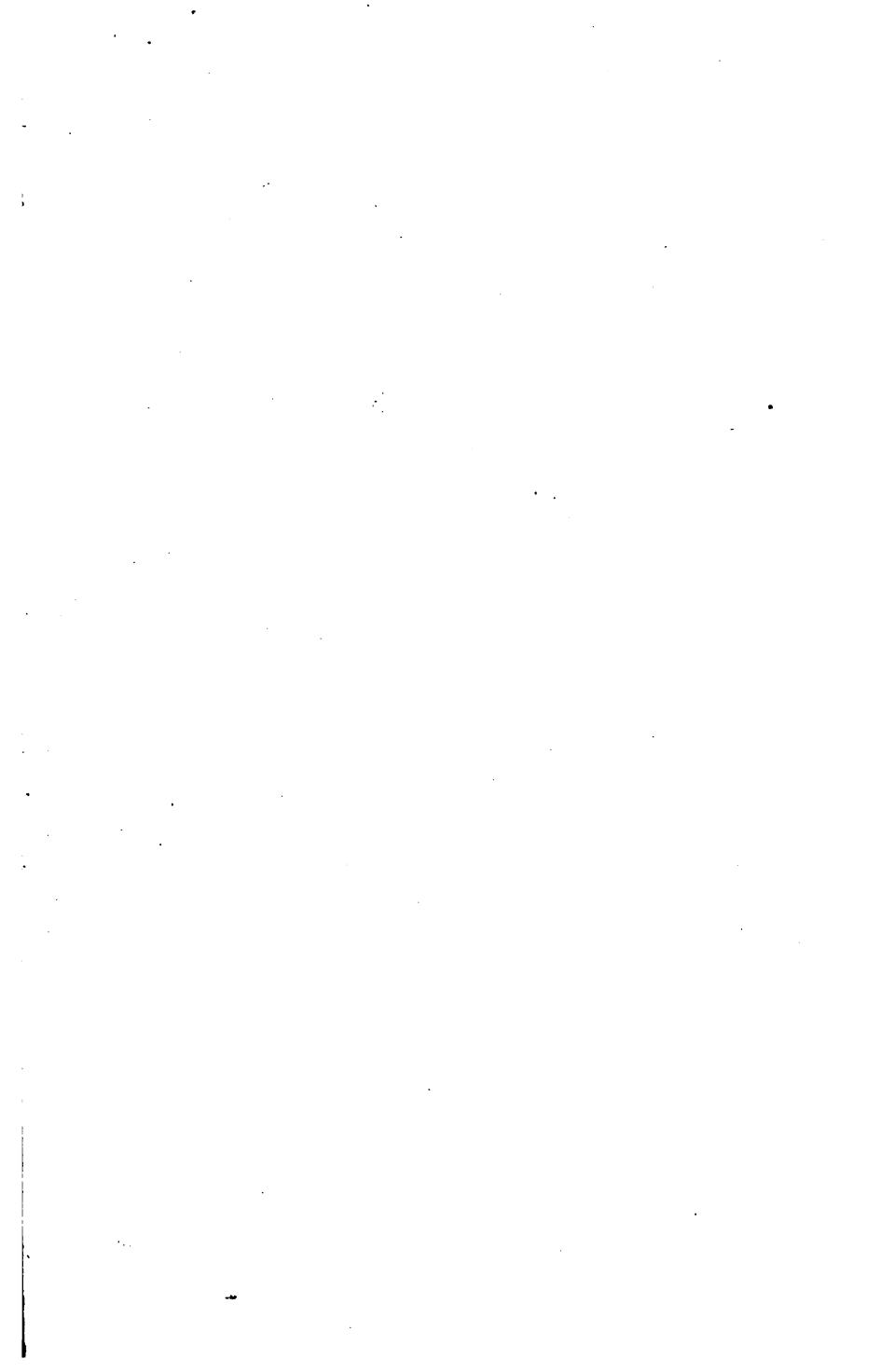


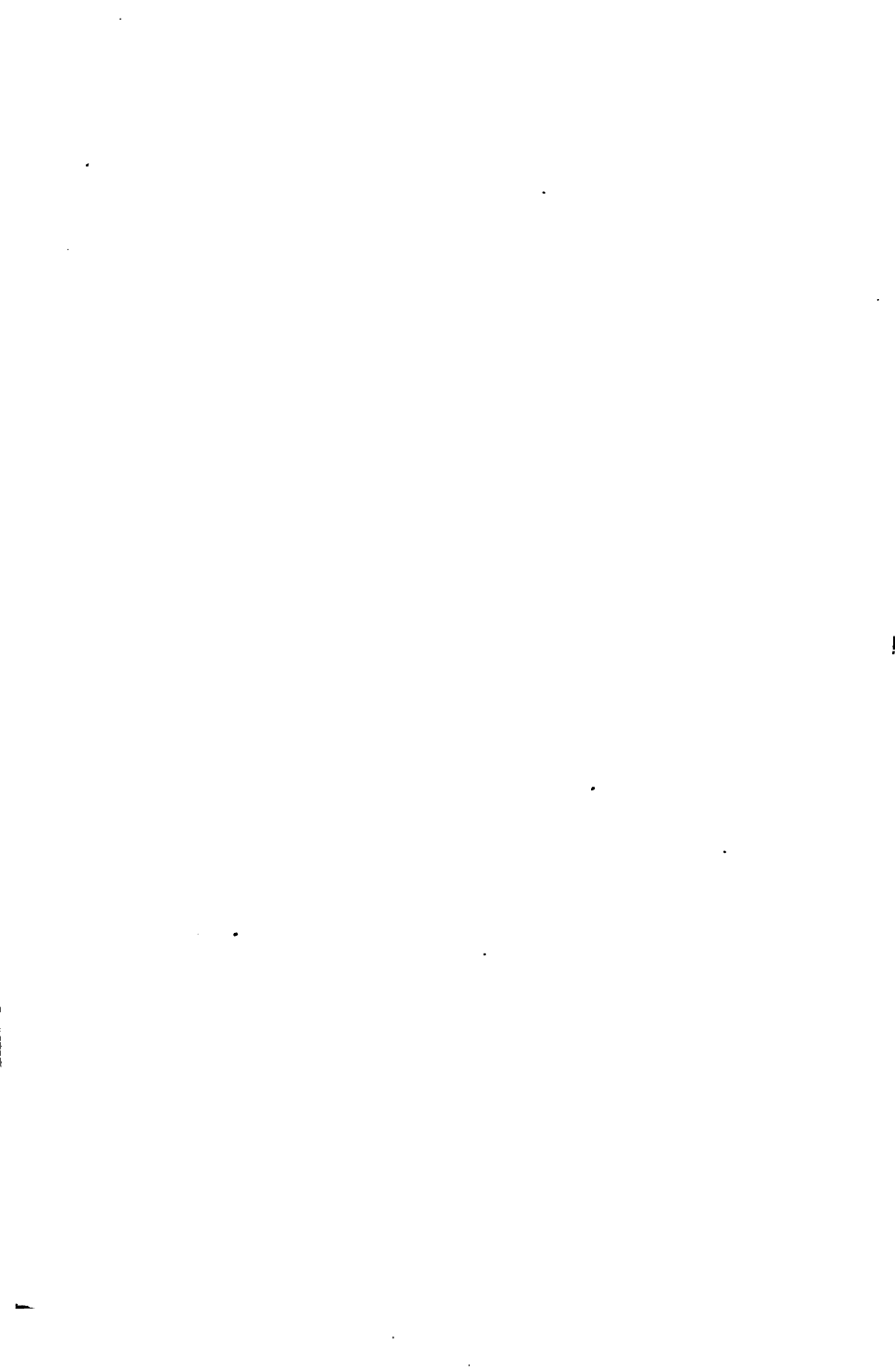














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